1

PROGRAMMER'S MANUAL

FOR THE

WARTIME PERSONNEL ASSESSMENT MODEL

(WARPAM)

(VERSION 1.0)

31 January 1991

Prepared for:

TRADOC ANALYSIS COMMAND
Building 401B
Fort Benjamin Harrison, Indiana 46216-5000

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The Wartime Personnel Assessment Model (WARPAM) is a skeletal model, designed for operation on a Sun workstation, links the outputs from several Army models and then through a series of simulations produces a comprehensive depiction of the Army wartime personnel replacement system. Specifically, WARPAM provides the capability to: forecast the personnel system's potential to satisfy projected requirements, link doctrinal concepts with output from current "stand alone" Army models, simulate the reclassification of return-to-duty personnel, generate logistical needs to support the personnel system and perform "What if" analysis regarding force structure or doctrinal changes. These capabilities enable TRAC-FBHN to provide quantitative input to the Army's macro-level decision-making process in regards to analyzing and evaluating force structure and personnel replacement doctrine and also satisfy the Army's requirements for micro-level modeling of replacement center activities.

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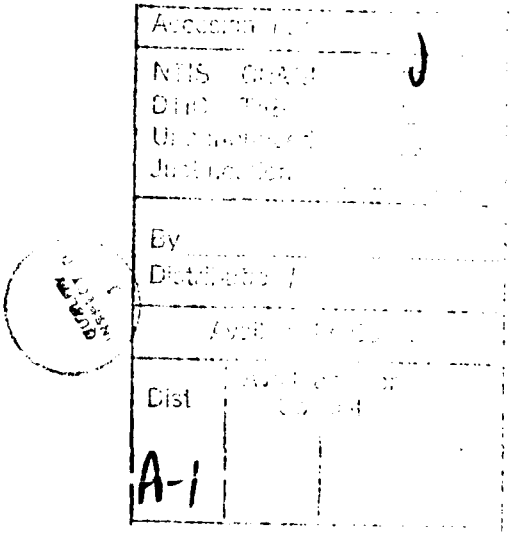


FIGURES

SECTION 1
GENERAL

1.1 PURPOSE OF THE PROGRAMMER'S MANUAL

The objective of the Programmer's Manual (PM) is to provide TRAC-FBHN programmers with the information necessary to effectively maintain WARPAM and, as required, effect minor program changes. When used in conjunction with the WARPAM Descriptive Documentation and User's Manual, the Programmer's Manual will allow TRAC-FBHN to maintain the system with internal personnel assets. The manual provides both overviews of the system architecture and the program code for the modules and models which form the WARPAM system.

1.2 PRIMARY PROJECT REFERENCES

The primary references upon which WARPAM is designed are listed below.

- Wartime Personnel Assessment Model (WARPAM), Government Statement of Work, April 1989.
- Personnel Service Support (PSS) in Army Models (Draft), TRADOC Analysis Command - Fort Benjamin Harrison, Major James Thomas, 1989.
- Wartime Replacement System Study (WRSS), Soldier Support Center, Fort Benjamin Harrison, March 1987.
- FM 12-6, Personnel Doctrine (Final Coordinating Draft), HQ, Department of the Army, August 1988.
- TOE Number 12406L0, HHD, Personnel Replacement Battalion, HQ, Department of the Army, October 1987.
- TOE Number 12407L0, Replacement Company, HQ, Department of the Army, October 1987.
- FM 12-6, Personnel Doctrine (Final Approved Draft), HQ, Department of the Army, June 1989.
- ARTEP Number 12-406-01-MTP, Personnel Replacement Battalion (GS/DS) (Coordinating Draft), HQ, Department of the Army, undated.
- ARTEP Number 12-407-30-MTP, Replacement Company (GS/DS), HQ, Department of the Army, July 1989.
- ARTEP Number 12-406-02-MTP, Personnel Replacement Battalion/Company (CRC) (Draft), HQ, Department of the Army, undated.

1.3 TERMS AND ABBREVIATIONS

Annex A contains a listing of terms, definitions, and acronyms unique to the development of WARPAM and subject to interpretation by the user of this document. This listing does not include data item names or codes which are discussed, as appropriate, within the body of the document.

SECTION 2
SYSTEM SUMMARY

2.1 SYSTEM APPLICATIONS

WARPAM is designed to resolve many of the US Army's modeling shortcomings associated with representing the flow of qualified replacements to the Airland Battlefield. This skeletal model, designed for operation on a Sun workstation, links the outputs from several Army models and then through a series of simulations produces a comprehensive depiction of the Army wartime personnel replacement system. Specifically, WARPAM provides the capability to: forecast the personnel system's potential to satisfy projected requirements, link doctrinal concepts with output from current "stand alone" Army models, simulate the reclassification of return-to-duty personnel, generate logistical and equipment requirements to support the personnel system and perform "What if" analysis in regards to force structure or doctrinal changes. These capabilities enable TRAC-FBHN to provide quantitative input to the Army's macro-level decision-making process in regards to analyzing and evaluating force structure and personnel replacement doctrine. Secondly, it satisfies the Army's requirements for micro-level modeling of replacement center activities enabling the analysis of contemplated changes prior to implementation. The following is a summary of WARPAM capabilities:

- Comparison of requirements generated by other Army models.
- Evaluation of the effects of proposed reclassification policy on replacement flow operations.
- Micro-level modeling of replacement activity operations to include force structure evaluation and personnel policy.
- What-If modeling of personnel policy and force structure with rapid response times.
- Determination of transportation and support requirements.
- Interface with other Army models to improve personnel modeling in the family of Army models.
- Evaluation of the capability of active and reserve forces to support multiple theaters operations.

2.2 SECURITY

The data bases and tables used in developing the initial version of WARPAM are not classified. Other variations of these data bases (disaggregated to theater level) may be classified and care should be exercised when operating in the classified mode. Special precautions should be taken when the system is operated as designed in a LAN network configuration.

2.3 SYSTEM DESCRIPTION

The primary functions of WARPAM are the preparation of data from other Army models in a preprocessor phase, the reclassification of theater return-to-duty personnel, the time-phased processing of personnel through the replacement system, and the comparison of CONUS and OCONUS replacement activities. These function of each model or module is described in detail in later sections. The chart below shows the interrelationship of these modules and models.

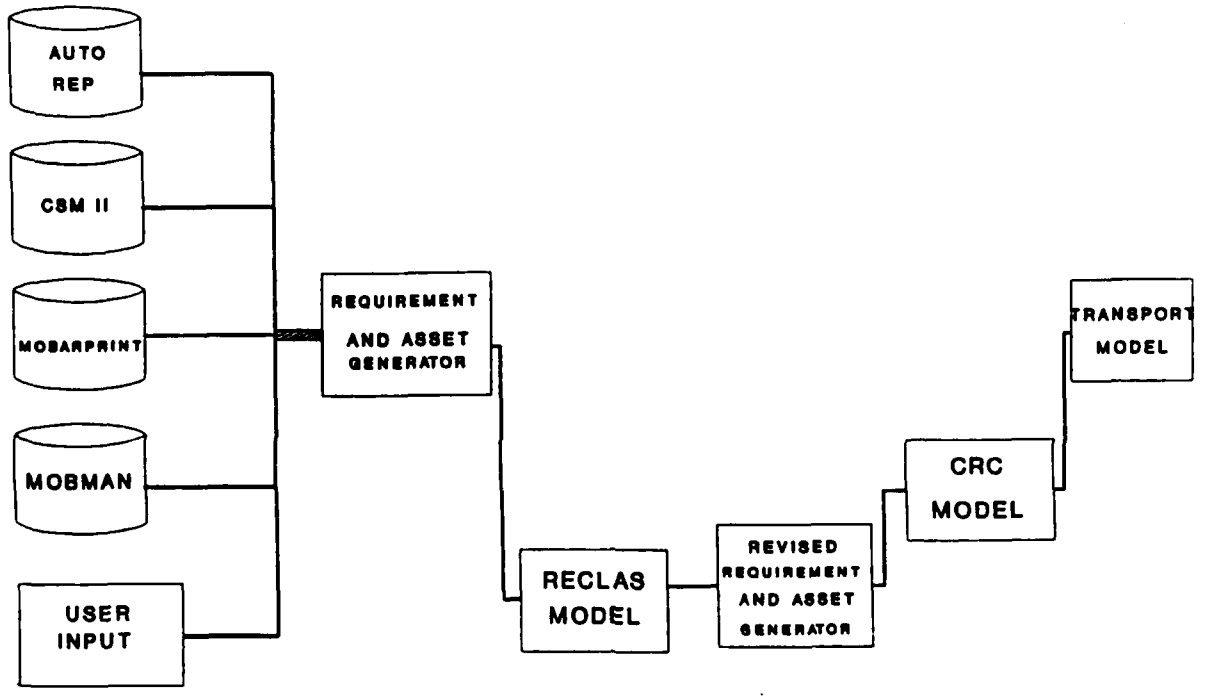


FIGURE 1: MODULAR ARCHITECTURE

2.4 PROGRAM DESCRIPTIONS

The individual programs and sub-routines are discussed in detail in the following sections.

SECTION 3
ENVIRONMENT

3.1 EQUIPMENT ENVIRONMENT

WARPAM is designed to operate on the TRAC-FBHN SUN 4/110-FCE-8 workstation with the following major components:

- o 16" color monitor
- o 32 MB memory
- o 327 MB hard disk
- o 60 MB 1/4" tape cartridge drive
- o Ethernet link to 5 1/4" diskette drive

3.2 SUPPORT SOFTWARE

All programs are heavily commented to afford ease of programming and maintenance.

WARPAM utilizes the following software:

- o SUN system "C" programming language: Executive Program
- o FORTRAN 77: All program routines except those written in SLAM II
- o SLAM II: CRC/RPL BN Model to replicate the internal operation of a replacement unit

3.3 DATA BASES

3.3.1 OPERATIONAL ORGANIZATION

WARPAM is organized with five major sub-systems. These are the preprocessor, reclassification model, CRC/RPL BN model, Transportation model and Report Generator. All but the report generator, which is performed on an IBM compatible PC, are run on the Sun workstation. The specific function of the major systems and their sub-components, as appropriate, are described in detail in subsequent sections. The chart on the following page depicts the WARPAM operational organization. Although the system appears to the user to be organized in this configuration, the actual data base organization is described in section 3.3.2 below.

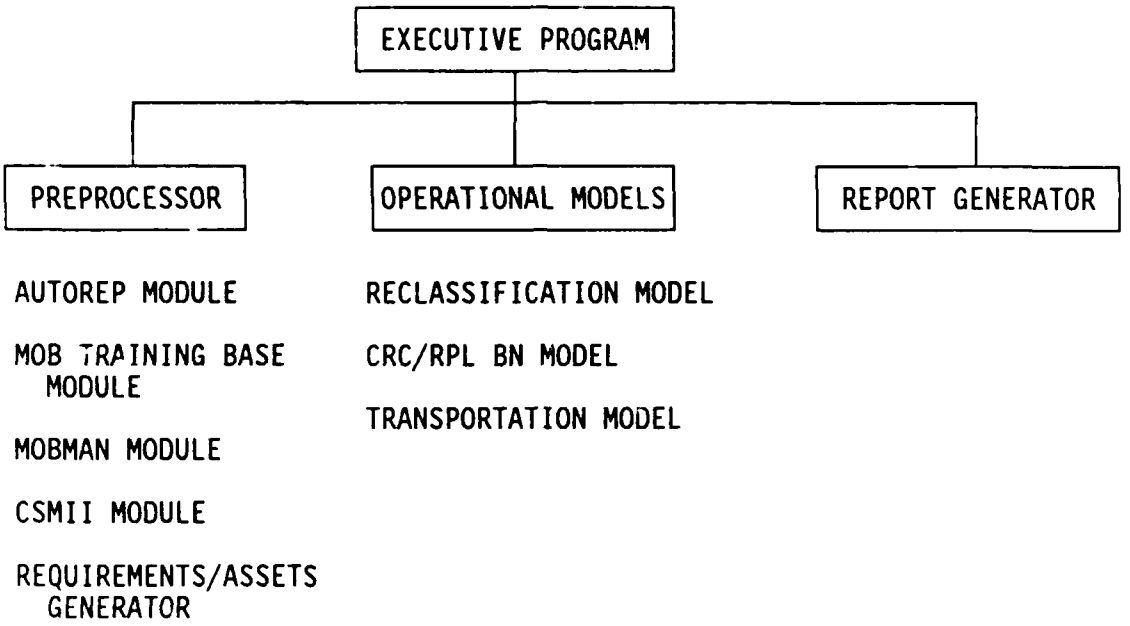


FIGURE 2: OPERATIONAL ORGANIZATION

3.3.2 SUB-DIRECTORY ORGANIZATION

WARPAM programs and files are organized on the Sun workstation in sub-directories based on the function of the program. These sub-directories are located in the WARPAM directory under the home directory on the TRAC-FBHN system. The sub-directories and their contents are:

- o FORTRAN — All FORTRAN programs
- o SLAM — All SLAM II programs
- o DBASE — All DBASE programs if loaded on the Sun workstation. These may be found only on the PC linked by network to the workstation
- o IOFILES — All data bases and look-up tables

3.4 INPUT FILE DATA BASES

3.4.1 AUTOREP

Source: USA PERSCOM "Shelf Requisition" files
Description: Individual theater requirements developed with CINC input at the ALO 2 level. Currently available for Europe and Korea.
Media: 5 1/4 floppy disk (10 low density disks)
Language: DBASE III Plus.

Format: Sample format at Annex B, page B-1

3.4.2 MOBMAN

Source: HQDA MOBMAN Model
Description: Multiple theater requirements consolidated to a single data base at the ALO 1 level
Media: 1/2" magnetic tape
Language: ASCII (must be requested from contractor)
Format: Sample format at Annex B, page B-2

3.4.3 CASUALTY STRATIFICATION MODEL II (CSM II)

Source: USA Soldier Support Center
Description: Individually developed casualty model with requirements at the theater or below level
Media: 5 1/4" floppy disk (one disk)
Language: ASCII developed from a DBASE III file
Format: Sample format at Annex B, page B-3

3.4.4 MOBARPRINT

Source: HQDA, ODCSPER
Description: Skill level one output from a constrained training base environment
Media: 5 1/4 floppy disk (one disk)
Language: ASCII
Format: Sample format at Annex B, page B-4

SECTION 4
PREPROCESSOR MODULES

4.1 GENERAL

The Preprocessor is designed to convert the output files of current military personnel mobilization models to a standard format and consolidate these into a single data base. To accomplish this, the preprocessor has five modules to convert the data, and a requirements/assets generator module to merge these converted files into a single data base. The files which WARPAM is currently configured to convert are described in the following sections. The input file and the converted file formats are at Annex B. This conversion process to a standard data base format includes the following steps:

- o Conversion to an ASCII format.
- o Aggregate occupational specialties into branch/grade groupings.
- o Prioritize branches.
- o Assign code numbers to each entry which represents the appropriate time period, branch priority and requirement or asset designator.

4.2 INITIATION

Each module of the preprocessor is initiated by user input from a Sun window which activates the FORTRAN program. This window is reached by using the WARPAM Executive Windows Program which allows the user to reach any module by simply using the workstation mouse to move the pointer over the appropriate window. THIS IS THE ONLY COMMAND REQUIRED TO RUN THE PREPROCESSOR PROGRAMS. Files produced from previous runs of the preprocessor should be stored in a different sub-directory or under a different file name prior to running the preprocessor modules. Any file of the same name in the IOFILE sub-directory on the Sun workstation will be overwritten by the new output file. After a conversion module is used to create a new file the requirements/assets generator program must also be run to bring this new file into the REQAST.TBL which is used by all the models in WARPAM. The individual files are NOT USED as separate entities by any program.

4.3 AUTOREP MODULE

This module converts the shelf requisition files created by US ARMY PERSCOM to standard WARPAM format. Multiple files may be received from PERSCOM for different theaters. These files can be combined to two, one for officers and one for enlisted. WARPAM is current configured to translate the files for Europe and Korea only. The new files from PERSCOM are received on 5 1/4" floppy disks and are loaded onto the Sun drive by way of the network and PC. Requirements created by this module are labeled as theater requirements AE1 for Europe and AKO for Korea. As with all modules in the

preprocessor, AUTOREP is initiated by placing the workstation mouse arrow over the appropriate block. This module use two look-up tables, the Branch table and the Time Period tables to convert the MOS to branches and convert the time periods to standard WARPAM time periods. The total processing of the AUTOREP file encompasses first converting the DBASE III Plus file to an ASCII file using a DBASE III conversion program and then reformatting the data into the standard WARPAM format using a FORTRAN program. The DBASE conversion is accomplished on an IBM compatible PC, whereas the format conversion is accomplished on the Sun workstation. The program flow and interrelationship of the modules is shown in the figure 3, below.

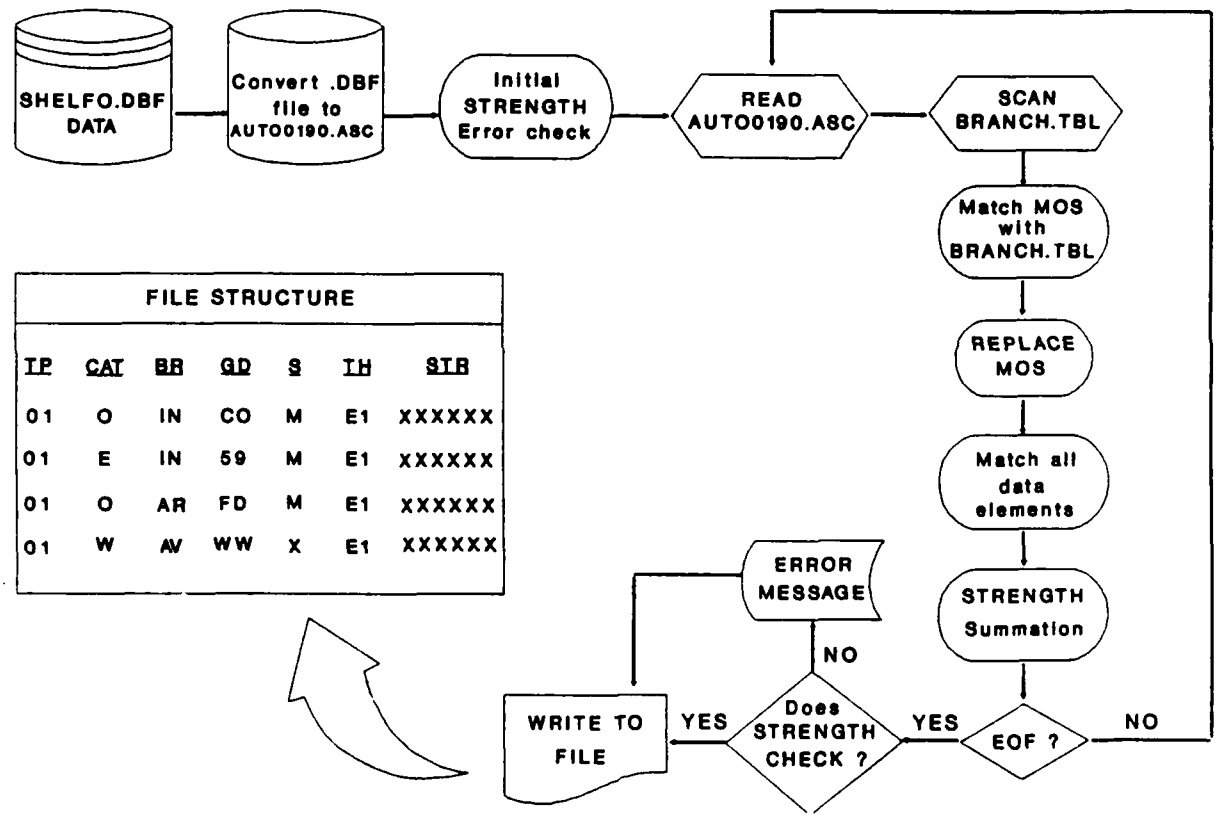


FIGURE 3: AUTOREP FILE CONVERSION

4.3.1 AUTOREP DBASE CONVERSION PROGRAMS

The DBASE programs can be used on either the single theater files and the files combined later or the files can be combined first. These programs may be modified by using DBASE III modified commands. The actual path for programs and data may be changed to accommodate the TRAC-FBHN PC configuration. The output files are designated AUTO0190.DAT and AUTE0190.DAT, for the officer and enlisted files respectively to designated file and program creation dates. Any change to these file names would require corresponding changes in the FORTRAN programs.

OFFICER CONVERSION PROGRAM

```
USE C:\SHELFO.DBF
COPY TO AUTO0190.DAT SDF FIELDS REQID, PERSCLASS, SPECCD, SKILID,
SKIL, GRADE, SEX, COMMAND, STRENGTH, RECORDID FOR RECORDID <>
'D2' .AND. RECORDID <> 'D3' .AND. RECORDID <> 'E2'^Z
```

ENLISTED CONVERSION PROGRAM

```
USE SHELFE.DBF
COPY TO AUTE0190.DAT SDF ALL FIELDS REQID, PERSCLASS, MOS, GRADE,
SEX, COMMAND, STRENGTH, RECORDID FOR RECORDID <> 'D2' .AND.
RECORDID <> 'D3' .AND. RECORDID <> 'E2'^Z
```

4.3.2 AUTOREP FORTRAN PROGRAMS

```
C*******************************************************************************
C
C  Program Name:  AUTOOREP                        Date:  04-10-1990
C
C  File Name:     AUTOREPO.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Reads, extracts, and stores:  [REQID] time period,
C                 category identifier, {MOS} military occupation speciality
C                 =[SPECCD] speciality + [SKILID] skill level identifier +
C                [SKIL] skil, [GRADE] grade, [SEX] gender, [COMMAND] command/
C                 theater, and [STRENGTH] strength/casualities.
C                 For each unique time period with the corresponding theater,
C                      MOS, grade, and gender the strength/casualities are
C                 summated.
C                 An output file is created which represents:  time period,
C                    category identifier, branch, grade, sex, theater, and
C                 strength.
C
C  Input:         AUTO0190.DAT
C                 AUTE0190.DAT
C
C  Output:        AUTOREP.OUT
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/30/90  Modified directory changes.       BAW
C
C*******************************************************************************

      PROGRAM AUTOOREP

C   Global Variables

      DIMENSION VSTOR(3000,6),TCHR(25),TPN(25),SLTP(8)
      CHARACTER*1 CHRE(17),CATC,SKLC,GRDC,SEXC,SPEC1,SPEC2,SKLID
      CHARACTER*2 TPC,TCHR,TPN,THRC,SPECC,GRDE,BRR,RCDID,VSTOR,SLTP
      CHARACTER*3 MOSC,THR
      CHARACTER*4 STRC
      CHARACTER*17 LINE

      LOGICAL THERE

      INTEGER I,XX,NUM,STR,NRCD,NARAY,MAXARAY,STRNG(3000,1),IFLG,K,
     &IFLAG,EXMAX
      COMMON/CCTP/TCHR,TPN
```

```
      COMMON/BRCH/CATC,MOSC,SPEC1,SPEC2,SPECC,SKLID,BRR
      EQUIVALENCE (CHRE(1),LINE)

C   Local Variables

      NRCD = 0
      NARAY = 0
      MAXARAY = 0
      IFLG = 0
      EXMAX = 0

      WRITE(6,90)
   90 FORMAT(/////20X,'**********************************',
     &/20X,'**********************************',//20X,
     &'          AUTOREP MODULE          ',//20X,
     &'**********************************',/20X,
     &'**********************************',////////20X,
     &'THE FOLLOWING FILES ARE NEEDED:',/30X,
     &'AUTO0190.DAT',/30X,'AUTE0190.DAT',/30X,'TP.TBL',
     &/30X,'BRANCH.TBL',//////////////)

      PAUSE

      WRITE(6,91)
   91 FORMAT(/////////////////////////////////////////////)

C   Checks to see if input files exists.  If the input files
C   do not exist, terminate the program.

      INQUIRE(FILE='/home/warpam/iofiles/AUTO0190.DAT',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)' ERROR - AUTO0190.DAT does not exist.'
         GOTO 100
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/AUTE0190.DAT',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)' ERROR - AUTE0190.DAT does not exist.'
         GOTO 100
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/BRANCH.TBL',EXIST=THERE)
      IF (.NOT.THERE)THEN
          WRITE(6,*)' ERROR - BRANCH.TBL does not exist.'
          GOTO 100
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/TP.TBL',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)' ERROR - TP.TBL does not exist.'
         GOTO 100
      ENDIF
```

```
C   Checks to see if output file exists.  If the output file
C   exists, delete it.

      INQUIRE(FILE='/home/warpam/iofiles/AUTOREP.OUT',EXIST=THERE)
      IF (THERE)THEN
         OPEN(1,FILE='/home/warpam/iofiles/AUTOREP.OUT',STATUS='OLD')
         CLOSE(1,STATUS='DELETE')
      ENDIF

C   Begin AUTOOREP
C   Calls subroutine TYMECODE which translates the time period code.
C   Time period codes are placed into global variable arrays.

      CALL TYMECODE

C   Opening and reading input file:  AUTO0190.DAT
C   Extracts data into variables per line.

      WRITE(6,*)' PROCESSING FILE:  AUTO0190.DAT (OFFICER/WARRANT)'
      OPEN(3,FILE='/home/warpam/iofiles/AUTO0190.DAT',STATUS='OLD')
   20 READ(3,'(17(A1))',ERR=300,END=200)CHRE

      NRCD = NRCD + 1
      TPC  = LINE(1:2)
      CATC = LINE(3:3)
      SPEC1= LINE(4:4)
      SPEC2= LINE(5:5)
      SKLID= LINE(6:6)
      SPECC= LINE(4:5)
      MOSC = LINE(4:6)
      SKLC = LINE(7:7)
      GRDC = LINE(8:8)
      SEXC = LINE(9:9)
      THRC = LINE(10:11)
      STRC = LINE(12:15)
      RCDID= LINE(16:17)

C  Category verification [O - officers, W - warrants]

      IF ((CATC.EQ.'O').OR.(CATC.EQ.'W'))GOTO 66
      IF ((CATC.NE.'O').AND.(CATC.NE.'W'))GOTO 20

C  Verify and translate Theater Code [THRC].
C  Code descriptors:  P1,P3,P8,NB,3A
C  (AKO - Korea), E1 (AE1 - Europe).

   66 IF ((THRC.NE.'E1').AND.(THRC.NE.'P1').AND.(THRC.NE.'P3').AND.
     &(THRC.NE.'P8').AND.(THRC.NE.'NB').AND.(THRC.NE.'3A'))GOTO 20
      IF (THRC.EQ.'E1')THEN
         THRC='E1'
         GOTO 67
      ENDIF
```

```
      IF ((THRC.EQ.'P1').OR.(THRC.EQ.'P3').OR.(THRC.EQ.'P8'))THEN
         THRC='KO'
         GOTO 67
      ENDIF
      IF ((THRC.EQ.'NB').OR.(THRC.EQ.'3A'))THRC='KO'

C  Verify and translate Time Period Code.

  67  IFLAG = 0
      DO 33 I = 1,25
         IF (TPC.EQ.TCHR(I))THEN
            IFLAG = 1
            TPC = TPN(I)
            GOTO 34
         ENDIF
  33  CONTINUE
  34  IF (IFLAG.EQ.0)GOTO 20

C  Calls subroutine BRLOOKUP which translates the branch code.

      CALL BRLOOKUP

C  Translates SEX and GRADE codes.

      IF (CATC.EQ.'W')THEN
         GRDE='WW'
         GOTO 79
      ENDIF
      IF (CATC.EQ.'O')THEN
        IF ((GRDC.EQ.'A').OR.(GRDC.EQ.'B'))THEN
           GRDE='FD'
           GOTO 78
        ENDIF
        IF ((GRDC.EQ.'C').OR.(GRDC.EQ.'D'))THEN
           GRDE='FD'
           GOTO 78
        ENDIF
        IF ((GRDC.EQ.'4').OR.(GRDC.EQ.'5').OR.(GRDC.EQ.'6'))THEN
           GRDE='FD'
           GOTO 78
        ENDIF
        IF ((GRDC.EQ.'7').OR.(GRDC.EQ.'8').OR.(GRDC.EQ.'9'))THEN
           GRDE='FD'
           GOTO 78
        ENDIF
        IF ((GRDC.EQ.'1').OR.(GRDC.EQ.'2').OR.(GRDC.EQ.'3'))THEN
           GRDE='CO'
           GOTO 78
        ENDIF
        IF ((GRDC.EQ.' ').OR.(GRDC.EQ.'E').OR.(GRDC.EQ.'F'))THEN
           GRDE='CO'
           GOTO 78
```

```
        ENDIF
      ENDIF
   78 IF ((CATC.EQ.'O').AND.(SEXC.EQ.' '))THEN
        IF ((SPECC.EQ.'11').OR.(SPECC.EQ.'12').OR.(SPECC.EQ.'18'))THEN
           SEXC='M'
        ELSE
           SEXC='X'
        ENDIF
        GOTO 80
      ENDIF
   79 IF (SEXC.EQ.'Z')THEN
         SEXC='X'
         GOTO 80
      ENDIF
      IF (SEXC.EQ.'M')THEN
         SEXC='M'
         GOTO 80
      ENDIF
      IF ((SEXC.NE.'Z').AND.(SEXC.NE.'M'))SEXC='X'

C   Converts strength [STRC] from character to a numeric value; such
C   that the strengths may be summated.

   80 STR = 0
      DO 22 I = 1,17
         IF (I.LT.12)GOTO 22
         IF (I.GT.15)GOTO 22
         XX = ICHAR(LINE(I:I))
         NUM = (79-(127-XX))
         IF (NUM.LT.0)NUM = 0
         IF (I.EQ.12)NUM = NUM * 1000
         IF (I.EQ.13)NUM = NUM * 100
         IF (I.EQ.14)NUM = NUM * 10
         IF (I.EQ.15)NUM = NUM * 1
         STR = STR + NUM
   22 CONTINUE

C   Stores variables in array position for each time period (1-18) and
C   for each theater (Europe and Korea).

      IF (NRCD.GT.1) GOTO 23
      IF (NRCD.EQ.1)THEN
         NARAY = NRCD
         VSTOR(NARAY,1) = TPC
         VSTOR(NARAY,2) = CATC
         VSTOR(NARAY,3) = BRR
         VSTOR(NARAY,4) = GRDE
         VSTOR(NARAY,5) = SEXC
         VSTOR(NARAY,6) = THRC
         STRNG(NARAY,1) = STR
         MAXARAY = NARAY
         GOTO 20
```

```
      ENDIF
   23 IF (STR.EQ.0)GOTO 20
      DO 24 I = 1,MAXARAY
         IF ((TPC.EQ.VSTOR(I,1)).AND.(CATC.EQ.VSTOR(I,2)))GOTO 30
         IFLG = 1
         GOTO 24
   30    IF ((BRR.EQ.VSTOR(I,3)).AND.(GRDE.EQ.VSTOR(I,4)))GOTO 31
         IFLG = 1
         GOTO 24
   31    IF ((SEXC.EQ.VSTOR(I,5)).AND.(THRC.EQ.VSTOR(I,6)))GOTO 32
         IFLG = 1
         GOTO 24
   32    STRNG(I,1) = STR + STRNG(I,1)
         GOTO 20
   24 CONTINUE
      IF (IFLG.EQ.1)THEN
         MAXARAY = MAXARAY + 1
         VSTOR(MAXARAY,1) = TPC
         VSTOR(MAXARAY,2) = CATC
         VSTOR(MAXARAY,3) = BRR
         VSTOR(MAXARAY,4) = GRDE
         VSTOR(MAXARAY,5) = SEXC
         VSTOR(MAXARAY,6) = THRC
         STRNG(MAXARAY,1) = STR
      ENDIF
      GOTO 20

C  Writes message(s) to screen when end of file [EOF] is encountered
C  or when an error reading the file is encountered.
C  Close Input file:  AUTO0190.DAT

  300 WRITE(6,*)' ERROR DETECTED READING FILE.'
  200 CLOSE(3,STATUS='KEEP')

C  Opening output file:   AUTOREP.OUT

      OPEN(70,FILE='/home/warpam/iofiles/AUTOREP.OUT',STATUS='NEW')

      DO 29 K = 1, MAXARAY
        IF (VSTOR(K,6).EQ.'E1')THEN
           THR = 'AE1'
        ELSE
           THR = 'AKO'
        ENDIF
        WRITE(70,46)VSTOR(K,1),VSTOR(K,2),VSTOR(K,3),VSTOR(K,4),
     &VSTOR(K,5),THR,STRNG(K,1)

C  Time period 14-18 are time period 13 requirements straight-lined
C  through 18 time periods.

        IF ((VSTOR(K,1).EQ.'13').AND.(THR.EQ.'AKO'))THEN
            SLTP(1) = '14'
```

```
            SLTP(2) = '15'
            SLTP(3) = '16'
            SLTP(4) = '17'
            SLTP(5) = '18'
            DO 69 I = 1,5
               EXMAX = EXMAX + 1
               WRITE(70,46)SLTP(I),VSTOR(K,2),VSTOR(K,3),
     &VSTOR(K,4),VSTOR(K,5),THR,STRNG(K,1)
 69         CONTINUE
         ENDIF
         IF ((VSTOR(K,1).EQ.'10').AND.(THR.EQ.'AE1'))THEN
            SLTP(1) = '11'
            SLTP(2) = '12'
            SLTP(3) = '13'
            SLTP(4) = '14'
            SLTP(5) = '15'
            SLTP(6) = '16'
            SLTP(7) = '17'
            SLTP(8) = '18'
            DO 39 I = 1,8
               EXMAX = EXMAX + 1
               WRITE(70,46)SLTP(I),VSTOR(K,2),VSTOR(K,3),
     &VSTOR(K,4),VSTOR(K,5),THR,STRNG(K,1)
 39         CONTINUE
         ENDIF
 46      FORMAT(2X,A2,3X,A1,2(A2),3X,A1,3X,A3,3X,I6)
 29   CONTINUE
      MAXARAY = MAXARAY + EXMAX

C  Temporarily close output file:  AUTOREP.OUT.  The AUTE0190.DAT
C  results will be appended to the current output file.

       CLOSE(70,STATUS='KEEP')

C  Recording input file validity.
C  NRCD [ Total record length]
C  MAXARAY [ Maximum number of processed records]

      WRITE(6,51)NRCD,MAXARAY
 51   FORMAT(/15X,' INPUT FILE STATISTICS . . . AUTO0190.DAT',
     &/8X,'Total No. of records in input file --->',I6,/8X,
     &'Maximum No. of records processed   --->',I6,/)

C  Calls subroutine AUTOEREP which processes autorep file for
C  enlisted officers by reading, extracting, and translating.

      CALL AUTOEREP

 100  STOP
      END

C  END AUTOOREP
```

```
C*****************************************************************************
C
C  Program Name:   TYMECODE                      Date:  04-17-1990
C
C  File Name:      TYMEP.FOR
C
C  Programmer:     Beth White, SAIC, 749-8771
C
C  Description:    Reads and translates the time period codes.
C
C
C  Input:          TP.TBL
C  Output:           .
C
C*****************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/30/90  Modified directory changes.       BAW
C
C*****************************************************************************

      SUBROUTINE TYMECODE

C   Global Variables

      DIMENSION TCHR(25),TPN(25)
      CHARACTER*2 TCHR,TPN,TC,TPX
      INTEGER L

      COMMON/CCTP/TCHR,TPN

C   Local Variables

      L = 0

C   BEGIN TYMECODE

C  Opening input files:    TP.TBL

      OPEN(60,FILE='/home/warpam/iofiles/TP.TBL',STATUS='OLD')
   52 READ(60,16,ERR=88,END=99)TC,TPX
   16 FORMAT(A2,1X,A2)
      L = L + 1
      TCHR(L) = TC
      TPN(L) = TPX
      GOTO 52
   88 WRITE(6,*)' ERROR DETECTED READING FILE.'
```

```
C  Close input file:  TP.TBL, exit subroutine and return to main program.

  99  CLOSE(60,STATUS='KEEP')
      RETURN
      END

C    END TYMEP.FOR
```

```
C*******************************************************************************
C
C  Program Name:    BRLOOKUP                        Date:  04-17-1990
C
C  File Name:       BRNCH.FOR
C
C  Programmer:      Beth White, SAIC, 749-8771
C
C  Description:     Reads and extracts corresponding MOS (Military
C                   Occupation Speciality) code.  The elements in the
C                   branch lookup table are in ascending order (low to high)
C                   for PERSCLASS/CATEGORY [ officer, warrant, enlisted].
C
C  Input:           BRANCH.TBL
C  Output:            .
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:            Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/30/90  Modified directory changes.        BAW
C
C*******************************************************************************

      SUBROUTINE BRLOOKUP

C   Global Variables

      CHARACTER*1 BCHR(7),FRSTC,CATC,SPEC1,SPEC2,SKLID,BR1,BR2,BR3,BRNN
      CHARACTER*2 SPECC,BRN,BRR
      CHARACTER*3 MOSC,BRNUM
      CHARACTER*7 BROW
      INTEGER ICHK
      COMMON/BRCH/CATC,MOSC,SPEC1,SPEC2,SPECC,SKLID,BRR
      EQUIVALENCE (BCHR(1),BROW)

C   Local Variables

      ICHK = 0

C   BEGIN BRLOOKUP

C  Opening input files:    BRANCH.TBL

      OPEN(61,FILE='/home/warpam/iofiles/BRANCH.TBL',STATUS='OLD')
  15  READ(61,'(7(A1))',ERR = 888,END = 999)BCHR

C     Extracts branch number code [BRNUM] and corresponding branch code
[BRCODE].

      FRSTC = BROW(5:5)
```

```
      IF (CATC.NE.FRSTC)GOTO 15
      BR1 = BROW(1:1)
      BR2 = BROW(2:2)
      BR3 = BROW(3:3)
      BRR = BROW(6:7)

      IF ((BR2.NE.'*').AND.(BR3.NE.'*'))THEN
          BRNUM =  BROW(1:3)
          IF(MOSC.EQ.BRNUM)THEN
             ICHK = ICHK + 1
             GOTO 16
          ENDIF
          GOTO 15
      ENDIF
      IF ((BR2.NE.'*').AND.(BR3.EQ.'*'))THEN
         BRN = BROW(1:2)
         IF(SPECC.EQ.BRN)THEN
            ICHK = ICHK + 1
            GOTO 16
         ENDIF
         GOTO 15
      ENDIF
      IF ((BR2.EQ.'*').AND.(BR3.EQ.'*'))THEN
          BRNN = BROW(1:1)
          IF(SPEC1.EQ.BRNN)THEN
             ICHK = ICHK + 1
             GOTO 16
          ENDIF
          GOTO 15
      ENDIF

 888  WRITE(6,*)' ERROR DETECTED READING FILE.'
 999  IF (ICHK.EQ.0)THEN
         IF((CATC.EQ.'O').OR.(CATC.EQ.'E'))BRR = 'CS'
         IF(CATC.EQ.'W')BRR = 'CC'
      ENDIF

C  Close input file:  BRANCH.TBL, exit subroutine and return to
C  main program.

  16  CLOSE(61,STATUS='KEEP')
      RETURN
      END

C   END BRNCH.FOR
```

```
C*******************************************************************************
C
C  Program Name:  AUTOEREP                        Date:  04-10-1990
C
C  File Name:     AUTOREPE.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C   Description:     Reads, extracts, and stores:  [REQID] time period,
C                  [PERSCLASS]
C                  category identifier, (MOS) military occupation speciality=
C                   [SPECCD] speciality + [SKILID] skill level identifier +
C                 [SKIL] skil, [GRADE] grade, [SEX] gender, [COMMAND] command/
C                   theater, and [STRENGTH] strength/casualities.
C
C                  For each unique time period with the corresponding theater,
C                       MOS, grade, and gender the strength/casualities are
C                   summated.
C                   An output file is created which represents:  time period,
C                      category identifier, branch, grade, sex, theater, and
C                   strength.
C
C  Input:          AUTE0190.DAT
C
C  Output:         AUTOREP.OUT
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/30/90  Modified directory changes.       BAW
C
C*******************************************************************************

        SUBROUTINE AUTOEREP

C   Global Variables

      DIMENSION VSTOR(3000,6),TCHR(25),TPN(25),SLTP(8)
      CHARACTER*1 CHR(16),CATC,SKLC,GRDC,SEXC,SPEC1,SPEC2,SKLID
      CHARACTER*2 TPC,TCHR,TPN,THRC,SPECC,GRDE,BRR,RCDID,VSTOR,SLTP
      CHARACTER*3 MOSC,THR
      CHARACTER*4 STRC
      CHARACTER*16 LIN
      INTEGER I,XX,NUM,STR,NROW,NARAY,MAXARAY,STRNG(3000,1),IFLG,K,
     &IFLAG,EXMAX

      COMMON/CCTP/TCHR,TPN
      COMMON/BRCH/CATC,MOSC,SPEC1,SPEC2,SPECC,SKLID,BRR
      EQUIVALENCE (CHR(1),LIN)
```

```
C   Local Variables

      NROW = 0
      NARAY = 0
      MAXARAY = 0
      IFLG = 0
      EXMAX = 0

C   BEGIN AUTOEREP

C   Passes global time period code translation from initial subroutine
C   TYMECODE .  The translation codes are made common to this
C   subroutine:  COMMON/CCTP/TCHR,TPN.

C   Opening and reading input file:  AUTE0190.DAT
C   Extracts data into variables per line.

      WRITE(6,*)' PROCESSING FILE:  AUTE0190.DAT (ENLISTED)'
      OPEN(4,FILE='/home/warpam/iofiles/AUTE0190.DAT',STATUS='OLD')
  20  READ(4,'(16(A1))',ERR=888,END=500)CHR

      NROW = NROW + 1
      TPC  = LIN(1:2)
      CATC = LIN(3:3)
      SPEC1= LIN(4:4)
      SPEC2= LIN(5:5)
      SKLID= LIN(6:6)
      SPECC= LIN(4:5)
      MOSC = LIN(4:6)
      SKLC = ' '
      GRDC = LIN(7:7)
      SEXC = LIN(8:8)
      THRC = LIN(9:10)
      STRC = LIN(11:14)
      RCDID= LIN(15:16)

C  Category verification [Only E - enlisted officers file]

      IF (CATC.NE.'E')GOTO 20

C  Verify and translate Theater Code [THRC].
C  Code descriptors:  P1,P3,P8,NB,3A
C  (AKO - Korea), E1 (AE1 - Europe).

      IF ((THRC.NE.'E1').AND.(THRC.NE.'P1').AND.(THRC.NE.'P3').AND.
     &(THRC.NE.'P8').AND.(THRC.NE.'NB').AND.(THRC.NE.'3A'))GOTO 20
      IF (THRC.EQ.'E1')THEN
          THRC='E1'
          GOTO 66
      ENDIF
      IF ((THRC.EQ.'P1').OR.(THRC.EQ.'P3').OR.(THRC.EQ.'P8'))THEN
          THRC='KO'
```

```
          GOTO 66
       ENDIF
       IF ((THRC.EQ.'NB').OR.(THRC.EQ.'3A'))THRC='KO'

C  Verify and translate Time Period Code.

  66   IFLAG = 0
       DO 33 I = 1,25
          IF (TPC.EQ.TCHR(I))THEN
             IFLAG = 1
             TPC = TPN(I)
             GOTO 34
          ENDIF
  33   CONTINUE
  34   IF (IFLAG.EQ.0)GOTO 20

C  Calls subroutine BRLOOKUP which translates the branch code.

       CALL BRLOOKUP

C  Translates SEX and GRADE codes.

       IF ((GRDC.EQ.'1').OR.(GRDC.EQ.'2'))THEN
          GRDE='14'
          GOTO 88
       ENDIF
       IF ((GRDC.EQ.' ').OR.(GRDC.EQ.'3').OR.(GRDC.EQ.'4'))THEN
          GRDE='14'
          GOTO 88
       ENDIF
       IF ((GRDC.EQ.'5').OR.(GRDC.EQ.'6').OR.(GRDC.EQ.'7'))THEN
          GRDE='59'
          GOTO 88
       ENDIF
       IF ((GRDC.EQ.'8').OR.(GRDC.EQ.'9'))THEN
          GRDE='59'
          GOTO 88
       ENDIF
  88   IF (SEXC.EQ.' ')THEN
         IF ((SPECC.EQ.'11').OR.(SPECC.EQ.'18').OR.(SPECC.EQ.'19'))THEN
            SEXC='M'
         ELSE
            SEXC='X'
         ENDIF
         GOTO 89
       ENDIF
       IF (SEXC.EQ.'M')THEN
          SEXC='M'
          GOTO 89
       ENDIF
       IF (SEXC.EQ.'Z')THEN
          SEXC='X'
```

```
         GOTO 89
      ENDIF
      IF ((SEXC.NE.'Z').AND.(SEXC.NE.'M'))SEXC='X'

C   Converts strength [STRC] from character to a numeric value; such
C   that the strengths may be summated.

   89 STR = 0
      DO 22 I = 1,16
         IF (I.LT.11)GOTO 22
         IF (I.GT.14)GOTO 22
         XX = ICHAR(LIN(I:I))
         NUM = (79-(127-XX))
         IF (NUM.LT.0)NUM = 0
         IF (I.EQ.11)NUM = NUM * 1000
         IF (I.EQ.12)NUM = NUM * 100
         IF (I.EQ.13)NUM = NUM * 10
         IF (I.EQ.14)NUM = NUM * 1
         STR = STR + NUM
   22 CONTINUE

C   Stores variables in array position for each time period (1-18) and
C   for each theater (Europe and Korea).

      IF (NROW.GT.1) GOTO 23
      IF (NROW.EQ.1)THEN
         NARAY = NROW
         VSTOR(NARAY,1) = TPC
         VSTOR(NARAY,2) = CATC
         VSTOR(NARAY,3) = BRR
         VSTOR(NARAY,4) = GRDE
         VSTOR(NARAY,5) = SEXC
         VSTOR(NARAY,6) = THRC
         STRNG(NARAY,1) = STR
         MAXARAY = NARAY
         GOTO 20
      ENDIF
   23 IF (STR.EQ.0)GOTO 20
       DO 24 I = 1,MAXARAY
         IF ((TPC.EQ.VSTOR(I,1)).AND.(CATC.EQ.VSTOR(I,2)))GOTO 30
         IFLG = 1
         GOTO 24
   30    IF ((BRR.EQ.VSTOR(I,3)).AND.(GRDE.EQ.VSTOR(I,4)))GOTO 31
         IFLG = 1
         GOTO 24
   31    IF ((SEXC.EQ.VSTOR(I,5)).AND.(THRC.EQ.VSTOR(I,6)))GOTO 32
         IFLG = 1
         GOTO 24
   32    STRNG(I,1) = STR + STRNG(I,1)
         GOTO 20
   24 CONTINUE
      IF (IFLG.EQ.1)THEN
```

```
         MAXARAY = MAXARAY + 1
         VSTOR(MAXARAY,1) = TPC
         VSTOR(MAXARAY,2) = CATC
         VSTOR(MAXARAY,3) = BRR
         VSTOR(MAXARAY,4) = GRDE
         VSTOR(MAXARAY,5) = SEXC
         VSTOR(MAXARAY,6) = THRC
         STRNG(MAXARAY,1) = STR
       ENDIF
       GOTO 20

C  Writes message(s) to screen when end of file [EOF] is encountered
C  or when an error reading the file is encountered.
C  Close Input file:  AUTE0190.DAT

 888  WRITE(6,*)' ERROR DETECTED READING FILE.'
 500  CLOSE(4,STATUS='KEEP')

C  Reopening output file :  AUTOREP.OUT to append new output.

       OPEN(70,FILE='/home/warpam/iofiles/AUTOREP.OUT',ACCESS='APPEND',
      &STATUS='OLD')

       DO 29 K = 1, MAXARAY
         IF (VSTOR(K,6).EQ.'E1')THEN
            THR = 'AE1'
         ELSE
            THR = 'AKO'
         ENDIF
         WRITE(70,46)VSTOR(K,1),VSTOR(K,2),VSTOR(K,3),VSTOR(K,4),
      &VSTOR(K,5),THR,STRNG(K,1)

C  Time period 14-18 are time period 13 requirements straight-lined
C  through 18 time periods.

         IF ((VSTOR(K,1).EQ.'13').AND.(THR.EQ.'AKO'))THEN
             SLTP(1) = '14'
             SLTP(2) = '15'
             SLTP(3) = '16'
             SLTP(4) = '17'
             SLTP(5) = '18'
             DO 69 I = 1,5
                EXMAX = EXMAX + 1
                WRITE(70,46)SLTP(I),VSTOR(K,2),VSTOR(K,3),
      &VSTOR(K,4),VSTOR(K,5),THR,STRNG(K,1)
  69         CONTINUE
         ENDIF
         IF ((VSTOR(K,1).EQ.'10').AND.(THR.EQ.'AE1'))THEN
              SLTP(1) = '11'
              SLTP(2) = '12'
              SLTP(3) = '13'
              SLTP(4) = '14'
```

```
            SLTP(5) = '15'
            SLTP(6) = '16'
            SLTP(7) = '17'
            SLTP(8) = '18'
            DO 39 I = 1,8
               EXMAX = EXMAX + 1
               WRITE(70,46)SLTP(I),VSTOR(K,2),VSTOR(K,3),
     &VSTOR(K,4),VSTOR(K,5),THR,STRNG(K,1)
  39        CONTINUE
         ENDIF
  46     FORMAT(2X,A2,3X,A1,2(A2),3X,A1,3X,A3,3X,I6)
  29  CONTINUE
      MAXARAY = MAXARAY + EXMAX

C  Close output file:  AUTOREP.OUT

      CLOSE(70,STATUS='KEEP')

C  Recording input file validity.
C  NROW [Total record length]
C  MAXARAY [Maximum number of processed records]

      WRITE(6,52)NROW,MAXARAY
  52  FORMAT(/15X,' INPUT FILE STATISTICS . . . AUTE0190.DAT',
     &/8X,'Total No. of records in input file --->',I6,/8X,
     &'Maximum No. of records processed   --->',I6,/)

C  Exit subroutine and return to main program.

      RETURN
      END

C  END AUTOOREP
```

4.4 MOBMAN

4.4.1 GENERAL

The MOBMAN module converts the output developed for the Mobilization Directorate of PERSCOM to standard format. The new file is received on 1/2" tape in an ASCII format and must be converted by programmer personnel utilizing a mainframe. All conversion programs are written in FORTRAN 77 and requires the Branch look-up table. The module generates two output files. The requirements file contains replacement requirements labeled "DEG" for Defense Guidance while the assets file entries are labeled: THS-active THS, IRR-initial ready reserve, STY-standby reserve and IMA and RET-category one retirees. MOBMAN generates these two output files with a single pass through the input data. This process and the interrelationship of the routines and sub-routines is shown in the figure below.

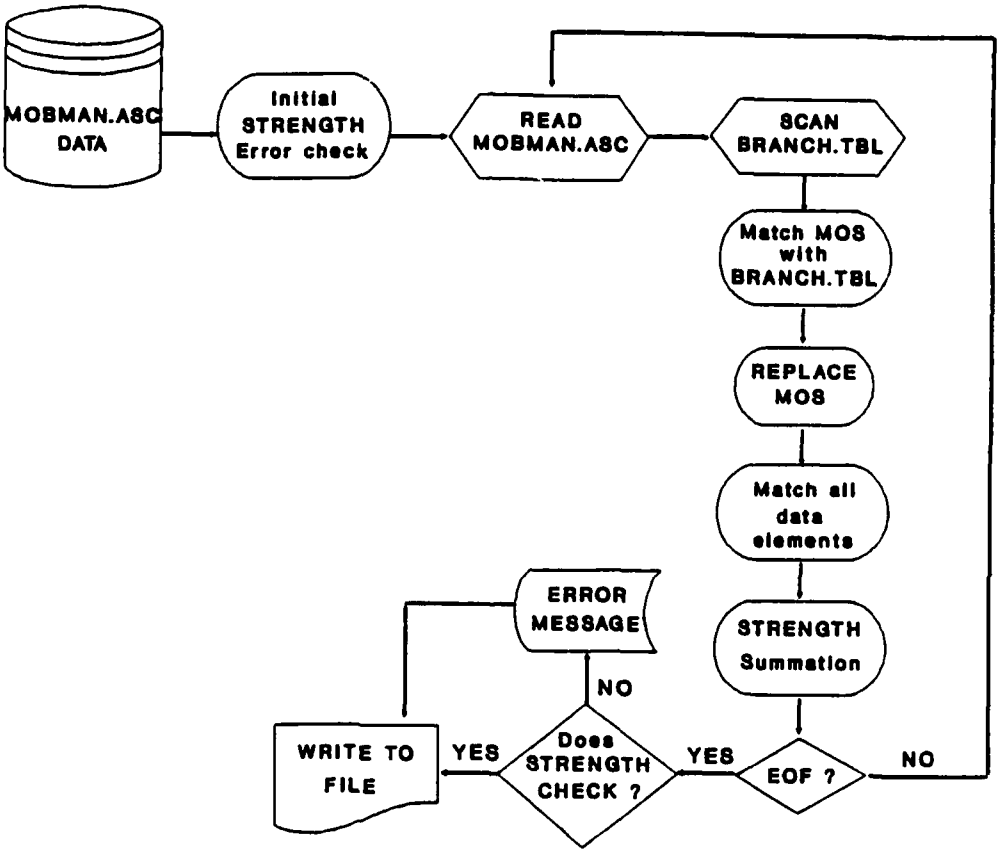


FIGURE 4: MOBMAN FILE CONVERSION

4.4.2 MOBMAN FORTRAN PROGRAMS

```
C*******************************************************************************
C
C  Program Name:  MOBRA                          Date:  05-04-1990
C
C  File Name:     MOBMANN.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Reads, extracts, and stores: [REQID] time period,[PERSCLASS]
C                  category identifier, (MOS) military occupation speciality
C                  =[SPECCD] speciality + [SKILID] skill level identifier +
C                 [SKIL] skil, [GRADE] grade, [SEX] gender, [COMMAND] command/
C                  theater, and [STRENGTH] strength/casualities.
C                  Note:  Requirements and Assets
C
C                 For each unique time period with the corresponding theater,
C                  MOS, grade, and gender the str/casualities are summated.
C                  An output file is created which represents:  time period,
C                  category identifier, branch, grade, sex, theater, and
C                  strength.
C
C  Input:          MOBMAN2.DAT
C
C  Output:         TEMPA.OUT   ---|  Temporary files
C                  TEMPR.OUT   ---|
C
C                  MOBMREQ.OUT
C                  MOBMAST.OUT
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  ---------------------------  --------------
C    01       C     05/30/90  Modified directory changes.        BAW
C                             Changed variable scan in
C                             input file from ACTIVE to
C                             THS.
C
C*******************************************************************************

      PROGRAM MOBRA

C  Global Variables

      DIMENSION TPC(18),HOLD(18)
      CHARACTER*1 CHR(125),CATC,CATHLD,GRDC,SPEC1,SPEC2,SKLID,SEXC,
     &GRDHLD
      CHARACTER*2 SPECC,BRR,GRDE,TPC
      CHARACTER*3 XMOS,MOSC,VARBL,THRC
```

```
      CHARACTER*125 NCHR

      LOGICAL THERE

      INTEGER IFLG,IFND,NMOS,STR,K,I,MAXREQ,STRG1,STRG2,STRG3,
     &STRG4,STRG5,STRG6,STRG7,STRG8,STRG9,STRG10,STRG11,STRG12,
     &STRG13,STRG14,STRG15,STRG16,STRG17,STRG18,STR1N,STR2N,STR3N,
     &STR4N,STR5N,STR6N,STR7N,STR8N,STR9N,STR10N,STR11N,STR12N,
     &STR13N,STR14N,STR15N,STR16N,STR17N,STR18N,STRENG,HOLD,ASET,
     &ASSET1,ASSET2,ASSET3,ASSET4,ASSET5,ASSET6,REQUIR,FILOPN,NUM,XX

      COMMON/BRCH/CATC,MOSC,SPEC1,SPEC2,SPECC,SKLID,BRR
      EQUIVALENCE (CHR(1),NCHR)

      DATA TPC(1)/'01'/,TPC(2)/'02'/,TPC(3)/'03'/,TPC(4)/'04'/,
     &TPC(5)/'05'/,TPC(6)/'06'/,TPC(7)/'07'/,TPC(8)/'08'/,
     &TPC(9)/'09'/,TPC(10)/'10'/,TPC(11)/'11'/,TPC(12)/'12'/,
     &TPC(13)/'13'/,TPC(14)/'14'/,TPC(15)/'15'/,TPC(16)/'16'/,
     &TPC(17)/'17'/,TPC(18)/'18'/

C  Local Variables

      IFLG   = 0
      IFND   = 0
      NMOS   = 0
      REQUIR = 0
      ASET   = 0
      ASSET1 = 0
      ASSET2 = 0
      ASSET3 = 0
      ASSET4 = 0
      ASSET5 = 0
      ASSET6 = 0
      MAXREQ = 0

      WRITE(6,90)
 90   FORMAT(/////20X,'**********************************',
     &/20X,'**********************************',//20X,
     &'          MOBMAN MODULE          ',//20X,
     &'**********************************',/20X,
     &'**********************************',///////20X,
     &'THE FOLLOWING FILES ARE NEEDED:',/30X,
     &'MOBMAN2.DAT',/30X,'BRANCH.TBL',//////////////)

      PAUSE

      WRITE(6,91)
 91   FORMAT(/////////////////////////////////////////)

C  Checks to see if input files exist.  If input files do not exist;
C  then write error message and terminate program.
```

```
      INQUIRE(FILE='/home/warpam/iofiles/MOBMAN2.DAT',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)'ERROR - MOBMAN2.DAT does not exist.'
         GOTO 100
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/BRANCH.TBL',EXIST=THERE)
      IF (.NOT.THERE)THEN
          WRITE(6,*)' ERROR - BRANCH.TBL does not exist.'
          GOTO 100
      ENDIF

C  Checks to see if output files exists.  If output files do exists;
C  then old output file is deleted.

      INQUIRE(FILE='/home/warpam/iofiles/TEMPR.OUT',EXIST=THERE)
      IF (THERE)THEN
         OPEN(16,FILE='/home/warpam/iofiles/TEMPR.OUT',STATUS='OLD')
         CLOSE(16,STATUS='DELETE')
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/TEMPA.OUT',EXIST=THERE)
      IF (THERE)THEN
         OPEN(17,FILE='/home/warpam/iofiles/TEMPA.OUT',STATUS='OLD')
         CLOSE(17,STATUS='DELETE')
      ENDIF

C  Creates and opens temporary files for requirement and asset
C  output.  The files will become old such that new records
C  may be appended the files.
C  Temporary Files:   TEMPR.OUT
C                     TEMPA.OUT

      OPEN(16,FILE='/home/warpam/iofiles/TEMPR.OUT',STATUS='NEW')
      CLOSE(16,STATUS='KEEP')

      OPEN(17,FILE='/home/warpam/iofiles/TEMPA.OUT',STATUS='NEW')
      CLOSE(17,STATUS='KEEP')

C  Begin MOBRA

C  Opening input file:  MOBMAN2.DAT

      WRITE(6,*)'PROCESSING INPUT FILE:  MOBMAN2.DAT'
      OPEN(2,FILE='/home/warpam/iofiles/MOBMAN2.DAT',STATUS='OLD')
 10   READ(2,'(125(A1))',ERR=88,END=99)CHR
      XMOS = NCHR(2:4)
      IF ((IFND.EQ.1).AND.(XMOS.NE.'MOS'))GOTO 10
      IF (XMOS.EQ.'MOS')THEN
         GRDHLD = NCHR(11:11)
         IF (GRDHLD.EQ.'6')THEN
            CATHLD = NCHR(13:13)
```

```
            IF (CATHLD.EQ.'E')THEN
               IFND = 1
               GOTO 10
            ENDIF
         ENDIF
         IF ((GRDHLD.EQ.'O').OR.(GRDHLD.EQ.'0').OR.(GRDHLD.EQ.' '))THEN
             IFND = 1
             GOTO 10
         ELSE
             NMOS = NMOS + 1
             IF (NMOS.GT.1)THEN
C  Case where REQUIR (requirement input line) does not exist.
C  Strength is set to zero .
             IF (REQUIR.EQ.0)STRENG = 0

C  Looks for cases where all 6 of the assets [THS,SEL RESERVE,
C  IMA, IRR, STANDBY, RETIREES] were not found in the input file.
C  If not found, the Strength (STRENG) = 0 .
C  SPECIAL CASES:   STANDBY and IMA were not found then
C                   Total Standby strength = 0
C
C                   STANDBY fails and IMA exists then
C                   Total Standby strength = IMA (HOLD(i)) + 0

             IF (ASET.LT.6)THEN
              OPEN(17,FILE='/home/warpam/iofiles/TEMPA.OUT',
     &ACCESS='APPEND',STATUS='OLD')
              FILOPN = 17
             ENDIF
             DO 110 WHILE (ASET.LT.6)
                IF (ASSET1.EQ.0)THEN
C                  Input line 'THS' does not exist.
                   ASSET1 = 1
                   STRENG = 0
                   GOTO 110
                ENDIF
                IF (ASSET2.EQ.0)THEN
C                  Input line 'SEL RESERVE does not exist.
                   ASSET2 = 1
                   STRENG = 0
                   GOTO 110
                ENDIF
                IF ((ASSET4.EQ.0).AND.(ASSET3.EQ.0))THEN
C                  Input line 'STANDBY' does not exist
C                  and input line 'IMA' does not exist.
                   ASSET4 = 1
                   ASSET3 = 1
                   STRENG = 0
                   ASET = ASET + 1
                   GOTO 110
                ENDIF
                IF ((ASSET4.EQ.0).AND.(ASSET3.EQ.1))THEN
```

```
C                    Input line 'STANDBY' does not exist
C                    and input line 'IMA' exists.
                     THRC = 'STY'
                     ASSET4 = 1
                     DO 55 I = 1,18
                      STRENG = HOLD(I) + 0
                      IF (STRENG.EQ.0)GOTO 55
                      WRITE(17,49)TPC(I),CATC,BRR,GRDE,SEXC,THRC,STRENG
 55                  CONTINUE
                     GOTO 110
                    ENDIF
                    IF (ASSET5.EQ.0)THEN
C                       Input line 'IRR' does not exist.
                        ASSET5 = 1
                        STRENG = 0
                        GOTO 110
                    ENDIF
                    IF (ASSET6.EQ.0)THEN
C                      Input line 'RETIREES' does not exist.
                       ASSET6 = 1
                       STRENG = 0
                       GOTO 110
                    ENDIF
 110              ASET = ASET + 1
                  IF (FILOPN.EQ.17)CLOSE(17,STATUS='KEEP')
                ENDIF

                IFND = 0
                REQUIR = 0
                ASSET1 = 0
                ASSET2 = 0
                ASSET3 = 0
                ASSET4 = 0
                ASSET5 = 0
                ASSET6 = 0
                ASET = 0
                DO 555 I = 1,18
 555               HOLD(I) = 0
                SPEC1 = NCHR(6:6)
                SPEC2 = NCHR(7:7)
                SKLID = NCHR(8:8)
                SPECC = NCHR(6:7)
                MOSC  = NCHR(6:8)
                GRDC  = NCHR(11:11)
                CATC  = NCHR(13:13)
                SEXC = ' '

C  Verify and translate Grade Code [GRDC].

                IF (CATC.EQ.'W')THEN
                   GRDE = 'WW'
                   GOTO 23
```

```
            ENDIF
            IF (CATC.EQ.'E')THEN
               IF (GRDC.EQ.'1')THEN
                  GRDE = '14'
                  GOTO 23
               ENDIF
               IF ((GRDC.EQ.'2').OR.(GRDC.EQ.'3'))THEN
                  GRDE = '59'
                  GOTO 23
               ENDIF
               IF ((GRDC.EQ.'4').OR.(GRDC.EQ.'5'))THEN
                  GRDE = '59'
                  GOTO 23
               ENDIF
            ENDIF
            IF (CATC.EQ.'O')THEN
               IF (GRDC.EQ.'1')THEN
                  GRDE = 'CO'
                  GOTO 23
               ENDIF
               IF ((GRDC.EQ.'2').OR.(GRDC.EQ.'3'))THEN
                  GRDE = 'CO'
                  GOTO 23
               ENDIF
               IF (GRDC.EQ.'4')THEN
                  GRDE = 'FD'
                  GOTO 23
               ENDIF
               IF ((GRDC.EQ.'5').OR.(GRDC.EQ.'6'))THEN
                   GRDE = 'FD'
                   GOTO 23
               ENDIF
            ENDIF

C  Calls subroutine BRLOOKUP which translates the branch code.

 23         CALL BRLOOKUP
            GOTO 10
         ENDIF
      ENDIF
      IF (XMOS.NE.'MOS')THEN
         VARBL = NCHR(6:8)
         IF ((VARBL.NE.'CAS').AND.(VARBL.NE.'THS').AND.(VARBL.NE.'SEL')
     &.AND.(VARBL.NE.'IMA').AND.(VARBL.NE.'IRR').AND.(VARBL.NE.'STA')
     &.AND.(VARBL.NE.'RET'))GOTO 10

C  If input line = 'Casualty'  ; then THRC = DEG
         IF (VARBL.EQ.'CAS')THEN
            THRC = 'DEG'
            REQUIR = 1
            GOTO 35
         ENDIF
```

```
C  If input line = 'Ths'          ; then THRC = THS
         IF (VARBL.EQ.'THS')THEN
            THRC = 'THS'
            ASSET1 = 1
            ASET = ASET + 1
            GOTO 35
         ENDIF
```

> The Select Reserve input variable is inactivated as the preponderance of these personnel are in troop units. When the input file, MOBMAN, is capable of distinguishing between individual select reserve and personnel in troop units, this selection may be activated by replacing the "GOTO 10" LINE WITH "GOTO 35". This assumes that the input file only contains individual reserves. If it does not, than an additional discriminator must be used to eliminate the troop unit personnel as these should not be considered in filling the individual replacement requirements addressed in WARPAM.

```
C  If input line = 'Sel Reserve'; then THRC = SEL
         IF (VARBL.EQ.'SEL')THEN
            THRC = 'SEL'
            ASSET2 = 1
            ASET = ASET + 1
            GOTO 10
         ENDIF

C  If input line = 'Ima'          ; then THRC = STY
         IF (VARBL.EQ.'IMA')THEN
            DO 19 I = 1,18
 19           HOLD(I) = 0
            THRC = 'STY'
            ASSET3 = 1
            ASET = ASET + 1
            GOTO 35
         ENDIF

C  If input line = 'Standby'      ; then THRC = STY
C  Note:  STY = IMA + STY
         IF (VARBL.EQ.'STA')THEN
            THRC = 'STY'
            ASSET4 = 1
            ASET = ASET + 1
            GOTO 35
         ENDIF

C  If input line = 'Irr'          ; then THRC = IRR
         IF (VARBL.EQ.'IRR')THEN
            THRC = 'IRR'
```

```
            ASSET5 = 1
            ASET = ASET + 1
            GOTO 35
         ENDIF

C  If input line = 'Retirees'    ; then THRC = RET
         IF (VARBL.EQ.'RET')THEN
            THRC = 'RET'
            ASSET6 = 1
            ASET = ASET + 1
            GOTO 35
         ENDIF
      ENDIF

C   Converts strength [STRC] from character to a numeric value; such
C   that the strengths may be summated.

 35   STR = 0
      K = 0
      DO 22 I = 1,125
         IF (I.LT.40)GOTO 22
         IF ((I.GT.44).AND.(I.LT.49))GOTO 22
         IF ((I.GT.53).AND.(I.LT.58))GOTO 22
         IF ((I.GT.62).AND.(I.LT.67))GOTO 22
         IF ((I.GT.71).AND.(I.LT.76))GOTO 22
         IF ((I.GT.80).AND.(I.LT.85))GOTO 22
         IF ((I.GT.89).AND.(I.LT.94))GOTO 22
         IF ((I.GT.98).AND.(I.LT.103))GOTO 22
         IF ((I.GT.107).AND.(I.LT.112))GOTO 22
         IF ((I.GT.116).AND.(I.LT.121))GOTO 22
         XX = ICHAR(NCHR(I:I))
         NUM = (79-(127-XX))
         IF (NUM.LT.0)NUM = 0
         IF ((I.GT.39).AND.(I.LT.45))THEN
            K = K + 1
            IF (I.EQ.40)NUM = NUM * 10000
            IF (I.EQ.41)NUM = NUM * 1000
            IF (I.EQ.42)NUM = NUM * 100
            IF (I.EQ.43)NUM = NUM * 10
            IF (I.EQ.44)NUM = NUM * 1
            STR = STR + NUM
            IF (K.EQ.5)THEN
              STRG1 = STR
              IF (VARBL.EQ.'IMA')THEN
                 HOLD(1) = STRG1
                 IF (HOLD(1).LT.0)HOLD(1) = 0
              ENDIF
              K = 0
              STR = 0
            ENDIF
            GOTO 22
         ENDIF
```

```
IF ((I.GT.48).AND.(I.LT.54))THEN
   K = K + 1
   IF (I.EQ.49)NUM = NUM * 10000
   IF (I.EQ.50)NUM = NUM * 1000
   IF (I.EQ.51)NUM = NUM * 100
   IF (I.EQ.52)NUM = NUM * 10
   IF (I.EQ.53)NUM = NUM * 1
   STR = STR + NUM
   IF (K.EQ.5)THEN
     STRG2 = STR
     IF (VARBL.EQ.'IMA')THEN
        HOLD(2) = STRG2 - STRG1
        IF (HOLD(2).LT.0)HOLD(2) = 0
     ENDIF
     K = 0
     STR = 0
   ENDIF
   GOTO 22
ENDIF
IF ((I.GT.57).AND.(I.LT.63))THEN
   K = K + 1
   IF (I.EQ.58)NUM = NUM * 10000
   IF (I.EQ.59)NUM = NUM * 1000
   IF (I.EQ.60)NUM = NUM * 100
   IF (I.EQ.61)NUM = NUM * 10
   IF (I.EQ.62)NUM = NUM * 1
   STR = STR + NUM
   IF (K.EQ.5)THEN
     STRG3 = STR
     IF (VARBL.EQ.'IMA')THEN
        HOLD(3) = STRG3 - STRG2
        IF (HOLD(3).LT.0)HOLD(3) = 0
     ENDIF
     K = 0
     STR = 0
   ENDIF
   GOTO 22
ENDIF
IF ((I.GT.66).AND.(I.LT.72))THEN
   K = K + 1
   IF (I.EQ.67)NUM = NUM * 10000
   IF (I.EQ.68)NUM = NUM * 1000
   IF (I.EQ.69)NUM = NUM * 100
   IF (I.EQ.70)NUM = NUM * 10
   IF (I.EQ.71)NUM = NUM * 1
   STR = STR + NUM
   IF (K.EQ.5)THEN
     STRG4 = STR
     IF (VARBL.EQ.'IMA')THEN
        HOLD(4) = STRG4 - STRG3
        IF (HOLD(4).LT.0)HOLD(4) = 0
     ENDIF
```

```
      K = 0
      STR = 0
   ENDIF
   GOTO 22
ENDIF
IF ((I.GT.75).AND.(I.LT.81))THEN
   K = K + 1
   IF (I.EQ.76)NUM = NUM * 10000
   IF (I.EQ.77)NUM = NUM * 1000
   IF (I.EQ.78)NUM = NUM * 100
   IF (I.EQ.79)NUM = NUM * 10
   IF (I.EQ.80)NUM = NUM * 1
   STR = STR + NUM
   IF (K.EQ.5)THEN
      STRG5 = STR
      IF (VARBL.EQ.'IMA')THEN
          HOLD(5) = STRG5 - STRG4
          IF (HOLD(5).LT.0)HOLD(5) = 0
      ENDIF
      K = 0
      STR = 0
   ENDIF
   GOTO 22
ENDIF
IF ((I.GT.84).AND.(I.LT.90))THEN
   K = K + 1
   IF (I.EQ.85)NUM = NUM * 10000
   IF (I.EQ.86)NUM = NUM * 1000
   IF (I.EQ.87)NUM = NUM * 100
   IF (I.EQ.88)NUM = NUM * 10
   IF (I.EQ.89)NUM = NUM * 1
   STR = STR + NUM
   IF (K.EQ.5)THEN
      STRG6 = STR
      STRG7 = STR
      STRG8 = STR
      IF (VARBL.EQ.'IMA')THEN
         HOLD(6) = NINT((STRG6 - STRG5)/3.0)
         HOLD(7) = NINT((STRG7 - STRG6)/3.0)
         HOLD(8) = NINT((STRG8 - STRG7)/3.0)
         IF (HOLD(6).LT.0)HOLD(6) = 0
         IF (HOLD(7).LT.0)HOLD(7) = 0
         IF (HOLD(8).LT.0)HOLD(8) = 0
      ENDIF
      K = 0
      STR = 0
   ENDIF
   GOTO 22
ENDIF
IF ((I.GT.93).AND.(I.LT.99))THEN
   K = K + 1
   IF (I.EQ.94)NUM = NUM * 10000
```

```
      IF (I.EQ.95)NUM = NUM * 1000
      IF (I.EQ.96)NUM = NUM * 100
      IF (I.EQ.97)NUM = NUM * 10
      IF (I.EQ.98)NUM = NUM * 1
      STR = STR + NUM
      IF (K.EQ.5)THEN
         STRG9  = STR
         STRG10 = STR
         STRG11 = STR
         IF (VARBL.EQ.'IMA')THEN
            HOLD(9)  = NINT((STRG9 - STRG8)/3.0)
            HOLD(10) = NINT((STRG10 - STRG9)/3.0)
            HOLD(11) = NINT((STRG11 - STRG10)/3.0)
            IF (HOLD(9).LT.0)HOLD(9) = 0
            IF (HOLD(10).LT.0)HOLD(10) = 0
            IF (HOLD(11).LT.0)HOLD(11) = 0
         ENDIF
         K = 0
         STR = 0
      ENDIF
      GOTO 22
   ENDIF
   IF ((I.GT.102).AND.(I.LT.108))THEN
      K = K + 1
      IF (I.EQ.103)NUM = NUM * 10000
      IF (I.EQ.104)NUM = NUM * 1000
      IF (I.EQ.105)NUM = NUM * 100
      IF (I.EQ.106)NUM = NUM * 10
      IF (I.EQ.107)NUM = NUM * 1
      STR = STR + NUM
      IF (K.EQ.5)THEN
         STRG12 = STR
         STRG13 = STR
         STRG14 = STR
         IF (VARBL.EQ.'IMA')THEN
            HOLD(12) = NINT((STRG12 - STRG11)/3.0)
            HOLD(13) = NINT((STRG13 - STRG12)/3.0)
            HOLD(14) = NINT((STRG14 - STRG13)/3.0)
            IF (HOLD(12).LT.0)HOLD(12) = 0
            IF (HOLD(13).LT.0)HOLD(13) = 0
            IF (HOLD(14).LT.0)HOLD(14) = 0
         ENDIF
         K = 0
         STR = 0
      ENDIF
      GOTO 22
   ENDIF
   IF ((I.GT.111).AND.(I.LT.117))THEN
      K = K + 1
      IF (I.EQ.112)NUM = NUM * 10000
      IF (I.EQ.113)NUM = NUM * 1000
      IF (I.EQ.114)NUM = NUM * 100
```

```
            IF (I.EQ.115)NUM = NUM * 10
            IF (I.EQ.116)NUM = NUM * 1
            STR = STR + NUM
            IF (K.EQ.5)THEN
               STRG15 = STR
               STRG16 = STR
               STRG17 = STR
               IF (VARBL.EQ.'IMA')THEN
                  HOLD(15) = NINT((STRG15 - STRG14)/3.0)
                  HOLD(16) = NINT((STRG16 - STRG15)/3.0)
                  HOLD(17) = NINT((STRG17 - STRG16)/3.0)
                  IF (HOLD(15).LT.0)HOLD(15) = 0
                  IF (HOLD(16).LT.0)HOLD(16) = 0
                  IF (HOLD(17).LT.0)HOLD(17) = 0
               ENDIF
               K = 0
               STR = 0
            ENDIF
            GOTO 22
         ENDIF
         IF (I.GT.120)THEN
            K = K + 1
            IF (I.EQ.121)NUM = NUM * 10000
            IF (I.EQ.122)NUM = NUM * 1000
            IF (I.EQ.123)NUM = NUM * 100
            IF (I.EQ.124)NUM = NUM * 10
            IF (I.EQ.125)NUM = NUM * 1
            STR = STR + NUM
            IF (K.EQ.5)THEN
               STRG18 = STR
               IF (VARBL.EQ.'IMA')THEN
                  HOLD(18) = STRG18 - STRG17
                  IF (HOLD(18).LT.0)HOLD(18) = 0
               ENDIF
               K = 0
               STR = 0
            ENDIF
            GOTO 22
         ENDIF
22    CONTINUE
      IF (VARBL.EQ.'IMA')GOTO 10

      STR1N  = STRG1
      IF (STR1N.LT.0)STR1N = 0

      STR2N  = STRG2 - STRG1
      IF (STR2N.LT.0)STR2N = 0

      STR3N  = STRG3 - STRG2
      IF (STR3N.LT.0)STR3N = 0

      STR4N  = STRG4 - STRG3
```

```
      IF (STR4N.LT.0)STR4N = 0

      STR5N  = STRG5 - STRG4
      IF (STR5N.LT.0)STR5N = 0

      STR6N  = NINT((STRG6 - STRG5)/3.0)
      IF (STR6N.LT.0)STR6N = 0
      STR7N  = STR6N
      STR8N  = STR6N

      STR9N  = NINT((STRG9 - STRG8)/3.0)
      IF (STR9N.LT.0)STR9N = 0
      STR10N = STR9N
      STR11N = STR9N

      STR12N = NINT((STRG12 - STRG11)/3.0)
      IF (STR12N.LT.0)STR12N = 0
      STR13N = STR12N
      STR14N = STR12N

      STR15N = NINT((STRG15 - STRG14)/3.0)
      IF (STR15N.LT.0)STR15N = 0
      STR16N = STR15N
      STR17N = STR15N

      STR18N = STRG18 - STRG17
      IF (STR18N.LT.0)STR18N = 0

C  Opens output files:  TEMPR.OUT [Requirements output] and
C  TEMPA.OUT [Assets output].

      IF (VARBL.EQ.'CAS')THEN
         OPEN(16,FILE='/home/warpam/iofiles/TEMPR.OUT',ACCESS='APPEND',
     &STATUS='OLD')
         FILOPN = 16
      ELSE
         OPEN(17,FILE='/home/warpam/iofiles/TEMPA.OUT',ACCESS='APPEND',
     &STATUS='OLD')
         FILOPN = 17
      ENDIF

      DO 14 I = 1,18
         IF (I.EQ.1)STRENG  =  STR1N
         IF (I.EQ.2)STRENG  =  STR2N
         IF (I.EQ.3)STRENG  =  STR3N
         IF (I.EQ.4)STRENG  =  STR4N
         IF (I.EQ.5)STRENG  =  STR5N
         IF (I.EQ.6)STRENG  =  STR6N
         IF (I.EQ.7)STRENG  =  STR7N
         IF (I.EQ.8)STRENG  =  STR8N
         IF (I.EQ.9)STRENG  =  STR9N
         IF (I.EQ.10)STRENG =  STR10N
```

```
          IF (I.EQ.11)STRENG =  STR11N
          IF (I.EQ.12)STRENG =  STR12N
          IF (I.EQ.13)STRENG =  STR13N
          IF (I.EQ.14)STRENG =  STR14N
          IF (I.EQ.15)STRENG =  STR15N
          IF (I.EQ.16)STRENG =  STR16N
          IF (I.EQ.17)STRENG =  STR17N
          IF (I.EQ.18)STRENG =  STR18N

C  Case where input lines:  STANDBY and IMA exist.
C  If both exist; the Standby strength = current standby strength
C  plus IMA (HOLD array) for the current time period.
C  Equation:  STRENG = HOLD(I) + STRENG

C  Case where input line STANDBY exist and IMA fails.
C  If Standby exist and Ima fails; the Standby strength =
C  current standby strength + 0 (no IMA)

          IF ((VARBL.EQ.'STA').AND.(ASSET3.EQ.1))THEN
              STRENG = HOLD(I) + STRENG
          ENDIF
          IF ((VARBL.EQ.'STA').AND.(ASSET3.EQ.0))THEN
              ASSET3 = 1
              STRENG = STRENG + 0
          ENDIF
          IF (STRENG.EQ.0)GOTO 14
          IF (FILOPN.EQ.16)THEN
             WRITE(16,49)TPC(I),CATC,BRR,GRDE,SEXC,THRC,STRENG
          ELSE
             WRITE(17,49)TPC(I),CATC,BRR,GRDE,SEXC,THRC,STRENG
          ENDIF
 49       FORMAT(2X,A2,2X,A1,2X,A2,2X,A2,2X,A1,2X,A3,2X,I6)
 14    CONTINUE
       IF (FILOPN.EQ.16)CLOSE(16,STATUS='KEEP')
       IF (FILOPN.EQ.17)CLOSE(17,STATUS='KEEP')
       GOTO 10

 88    WRITE(6,*)' ERROR - Reading File.'
 99    CLOSE(2,STATUS='KEEP')
       CLOSE(16,STATUS='KEEP')
       CLOSE(17,STATUS='KEEP')

C  Writing results to output file.
       CALL MOBREQ
       CALL MOBAST

 100   STOP
       END

C    END MOBMANN.FOR
```

```
C*******************************************************************************
C*******************************************************************************
C
C                          SUBROUTINES
C*******************************************************************************

C*******************************************************************************
C
C  Program Name:   BRLOOKUP                      Date:  04-17-1990
C
C  File Name:      BRNCH.FOR
C
C  Programmer:     Beth White, SAIC, 749-8771
C
C  Description:    Reads and extracts corresponding MOS (Military
C                  Occupation Speciality) code.  The elements in the
C                  branch lookup table are in ascending order (low to high)
C                  for PERSCLASS/CATEGORY [ officer, warrant, enlisted].
C
C  Input:          BRANCH.TBL
C  Output:           .
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  -------------------------  --------------
C    01       C     05/30/90  Modified directory changes.        BAW
C
C*******************************************************************************

      SUBROUTINE BRLOOKUP

C   Global Variables

      CHARACTER*1 BCHR(7),FRSTC,CATC,SPEC1,SPEC2,SKLID,BR1,BR2,BR3,BRNN
      CHARACTER*2 SPECC,BRN,BRR
      CHARACTER*3 MOSC,BRNUM
      CHARACTER*7 BROW
      INTEGER ICHK
      COMMON/BRCH/CATC,MOSC,SPEC1,SPEC2,SPECC,SKLID,BRR
      EQUIVALENCE (BCHR(1),BROW)

C   Local Variables

      ICHK = 0

C   BEGIN BRLOOKUP

C  Opening input files:    BRANCH.TBL

      OPEN(61,FILE='/home/warpam/iofiles/BRANCH.TBL',STATUS='OLD')
```

```
  15  READ(61,'(7(A1))',ERR = 888,END = 999)BCHR

C     Extracts branch number code [BRNUM] and corresponding branch code
[BRCODE].

      FRSTC = BROW(5:5)
      IF (CATC.NE.FRSTC)GOTO 15
      BR1 = BROW(1:1)
      BR2 = BROW(2:2)
      BR3 = BROW(3:3)
      BRR = BROW(6:7)

      IF ((BR2.NE.'*').AND.(BR3.NE.'*'))THEN
          BRNUM =  BROW(1:3)
          IF(MOSC.EQ.BRNUM)THEN
             ICHK = ICHK + 1
             GOTO 16
          ENDIF
          GOTO 15
      ENDIF
      IF ((BR2.NE.'*').AND.(BR3.EQ.'*'))THEN
         BRN = BROW(1:2)
         IF(SPECC.EQ.BRN)THEN
            ICHK = ICHK + 1
            GOTO 16
         ENDIF
         GOTO 15
      ENDIF
      IF ((BR2.EQ.'*').AND.(BR3.EQ.'*'))THEN
          BRNN = BROW(1:1)
          IF(SPEC1.EQ.BRNN)THEN
             ICHK = ICHK + 1
             GOTO 16
          ENDIF
          GOTO 15
      ENDIF

 888  WRITE(6,*)' ERROR DETECTED READING FILE.'
 999  IF (ICHK.EQ.0)THEN
         IF((CATC.EQ.'O').OR.(CATC.EQ.'E'))BRR = 'CS'
         IF(CATC.EQ.'W')BRR = 'CC'
      ENDIF

C  Close input file:  BRANCH.TBL, exit subroutine and return to
C  main program.

  16  CLOSE(61,STATUS='KEEP')
      RETURN
      END

C   END BRNCH.FOR
```

```
C*******************************************************************************
C
C  Program Name:  MOBREQ                          Date:  05-14-1990
C
C  File Name:     MOBRSLT1.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Writes MOBMAN2.DAT output to a file which is a
C                 requirement file.
C
C  Input:         TEMPR.OUT
C
C  Output:        MOBMREQ.OUT
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:          Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/30/90  Modified directory changes.       BAW
C
C*******************************************************************************

      SUBROUTINE MOBREQ

C  Global Variables

      DIMENSION VSTOR(7000,6),STRNG(7000,1)
      CHARACTER*1 CATC,SEXC
      CHARACTER*2 BRR,GRDE,TP
      CHARACTER*3 THRC,VSTOR
      LOGICAL THERE
      INTEGER II,STRENG,STRNG,MAXARAY

C  Local Variables

      II = 0
      MAXARAY = 0

C  Checks to see if output file exists.  If output file exists;
C  then delete old output file and create a new one.

      INQUIRE(FILE='/home/warpam/iofiles/MOBMREQ.OUT',EXIST=THERE)
      IF (THERE)THEN
         OPEN(81,FILE='/home/warpam/iofiles/MOBMREQ.OUT',STATUS='OLD')
         CLOSE(81,STATUS='DELETE')
      ENDIF

      WRITE(6,*)' GENERATING OUTPUT FILE:  MOBMREQ.OUT '
      OPEN(16,FILE='/home/warpam/iofiles/TEMPR.OUT',STATUS='OLD')
  500 READ(16,87,ERR=888,END=999)TP,CATC,BRR,GRDE,SEXC,THRC,STRENG
```

```
87    FORMAT(2X,A2,2X,A1,2X,A2,2X,A2,2X,A1,2X,A3,2X,I6)
      IFLG = 0
      II = II + 1
      IF (II.GT.1)GOTO 501
      IF (II.EQ.1)THEN
         MAXARAY = II
         VSTOR(II,1) = TP
         VSTOR(II,2) = CATC
         VSTOR(II,3) = BRR
         VSTOR(II,4) = GRDE
         VSTOR(II,5) = SEXC
         VSTOR(II,6) = THRC
         STRNG(II,1) = STRENG
         GOTO 500
      ENDIF
501   DO 503 J = 1,MAXARAY
         IF ((TP.EQ.VSTOR(J,1)).AND.(CATC.EQ.VSTOR(J,2)))GOTO 510
         IFLG = 1
         GOTO 503
510      IF ((BRR.EQ.VSTOR(J,3)).AND.(GRDE.EQ.VSTOR(J,4)))GOTO 511
         IFLG = 1
         GOTO 503
511      IF ((SEXC.EQ.VSTOR(J,5)).AND.(THRC.EQ.VSTOR(J,6)))GOTO 512
         IFLG = 1
         GOTO 503
512      STRNG(J,1) = STRENG + STRNG(J,1)
         GOTO 500
503   CONTINUE
      IF (IFLG.EQ.1)THEN
         MAXARAY = MAXARAY + 1
         VSTOR(MAXARAY,1) = TP
         VSTOR(MAXARAY,2) = CATC
         VSTOR(MAXARAY,3) = BRR
         VSTOR(MAXARAY,4) = GRDE
         VSTOR(MAXARAY,5) = SEXC
         VSTOR(MAXARAY,6) = THRC
         STRNG(MAXARAY,1) = STRENG
         GOTO 500
      ENDIF

888   WRITE(6,*)' ERROR - Reading File.'
999   CLOSE(16,STATUS='KEEP')

      OPEN(81,FILE='/home/warpam/iofiles/MOBMREQ.OUT',STATUS='NEW')
      DO 797 I = 1,MAXARAY
         WRITE(81,444)VSTOR(I,1),VSTOR(I,2),VSTOR(I,3),VSTOR(I,4),
     &VSTOR(I,5),VSTOR(I,6),STRNG(I,1)
444      FORMAT(2X,A2,2X,A1,2X,A2,2X,A2,2X,A1,2X,A3,2X,I6)
797   CONTINUE
      CLOSE(81,STATUS='KEEP')

      OPEN(16,FILE='/home/warpam/iofiles/TEMPR.OUT',STATUS='OLD')
```

```
      CLOSE(16,STATUS='DELETE')

C  Recording input file validity.
C  II [ Total record length]
C  MAXARY [ Maximum number of processed records]

      WRITE(6,51)II,MAXARAY
 51   FORMAT(/15X,' INPUT FILE STATISTICS . . . MOBMAN2.DAT',
     &/8X,'Total No. of records in input file --->',I6,/8X,
     &'Maximum No. of records processed   --->',I6,/)

      RETURN
      END

C   END MOBRSLT1.FOR
```

```
C*******************************************************************************
C
C  Program Name:  MOBAST                          Date:  05-14-1990
C
C  File Name:     MOBRSLT2.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Writes MOBMAN2.DAT output to a file which is an
C                 asset file.
C
C  Input:         TEMPA.OUT
C
C  Output:        MOBMAST.OUT
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/30/90  Modified directory changes.       BAW
C
C*******************************************************************************

      SUBROUTINE MOBAST

C  Global Variables

      DIMENSION VSTOR(7000,6),STRNG(7000,1)
      CHARACTER*1 CATC,SEXC
      CHARACTER*2 BRR,GRDE,TP
      CHARACTER*3 THRC,VSTOR
      LOGICAL THERE
      INTEGER II,STRENG,STRNG,MAXARAY

C  Local Variables

      II = 0
      MAXARAY = 0

C  Checks to see if output file exists.  If output file exists;
C  then delete old output file and create a new one.

      INQUIRE(FILE='/home/warpam/iofiles/MOBMAST.OUT',EXIST=THERE)
      IF (THERE)THEN
         OPEN(3,FILE='/home/warpam/iofiles/MOBMAST.OUT',STATUS='OLD')
         CLOSE(3,STATUS='DELETE')
      ENDIF

      WRITE(6,*)' GENERATING OUTPUT FILE:  MOBMAST.OUT '
      OPEN(17,FILE='/home/warpam/iofiles/TEMPA.OUT',STATUS='OLD')
  500 READ(17,87,ERR=888,END=999)TP,CATC,BRR,GRDE,SEXC,THRC,STRENG
```

```
87    FORMAT(2X,A2,2X,A1,2X,A2,2X,A2,2X,A1,2X,A3,2X,I6)
      IFLG = 0
      II = II + 1
      IF (II.GT.1)GOTO 501
      IF (II.EQ.1)THEN
         MAXARAY = II
         VSTOR(II,1) = TP
         VSTOR(II,2) = CATC
         VSTOR(II,3) = BRR
         VSTOR(II,4) = GRDE
         VSTOR(II,5) = SEXC
         VSTOR(II,6) = THRC
         STRNG(II,1) = STRENG
         GOTO 500
      ENDIF
501   DO 503 J = 1,MAXARAY
         IF ((TP.EQ.VSTOR(J,1)).AND.(CATC.EQ.VSTOR(J,2)))GOTO 510
         IFLG = 1
         GOTO 503
510      IF ((BRR.EQ.VSTOR(J,3)).AND.(GRDE.EQ.VSTOR(J,4)))GOTO 511
         IFLG = 1
         GOTO 503
511      IF ((SEXC.EQ.VSTOR(J,5)).AND.(THRC.EQ.VSTOR(J,6)))GOTO 512
         IFLG = 1
         GOTO 503
512      STRNG(J,1) = STRENG + STRNG(J,1)
         GOTO 500
503   CONTINUE
      IF (IFLG.EQ.1)THEN
         MAXARAY = MAXARAY + 1
         VSTOR(MAXARAY,1) = TP
         VSTOR(MAXARAY,2) = CATC
         VSTOR(MAXARAY,3) = BRR
         VSTOR(MAXARAY,4) = GRDE
         VSTOR(MAXARAY,5) = SEXC
         VSTOR(MAXARAY,6) = THRC
         STRNG(MAXARAY,1) = STRENG
         GOTO 500
      ENDIF

888   WRITE(6,*)' ERROR - Reading File.'
999   CLOSE(17,STATUS='KEEP')

      OPEN(3,FILE='/home/warpam/iofiles/MOBMAST.OUT',STATUS='NEW')
      DO 797 I = 1,MAXARAY
         WRITE(3,444)VSTOR(I,1),VSTOR(I,2),VSTOR(I,3),VSTOR(I,4),
     &VSTOR(I,5),VSTOR(I,6),STRNG(I,1)
444      FORMAT(2X,A2,2X,A1,2X,A2,2X,A2,2X,A1,2X,A3,2X,I6)
797   CONTINUE
      CLOSE(3,STATUS='KEEP')

      OPEN(17,FILE='/home/warpam/iofiles/TEMPA.OUT',STATUS='OLD')
```

```
      CLOSE(17,STATUS='DELETE')

C  Recording input file validity.
C  II [ Total record length]
C  MAXARY [ Maximum number of processed records]

      WRITE(6,51)II,MAXARAY
 51   FORMAT(/15X,' INPUT FILE STATISTICS . . . MOBMAN2.DAT',
     &/8X,'Total No. of records in input file --->',I6,/8X,
     &'Maximum No. of records processed   --->',I6,/)

      RETURN
      END

C   END MOBRSLT2.FOR
```

4.5 CASUALTY STRATIFICATION MODEL II (CSM II) MODULE

4.5.1 GENERAL

This module converts the CSMII model output created by Soldiers Support Center to usable WARPAM configuration. The new file is received on 5 1/4" floppy disks. The file should be requested in ASCII format. The input files are loaded onto the Sun drive by way of the network and PC. This module requires the Branch look-up table. Conversion of this file results in the creation of two requirement files labeled, CSMT for the total casualty requirement and CSMB for the battle casualty only portion of the output. As CSM II is operated by an office in the immediate vicinity of TRAC-FBHN and as the level of combat in CSM II can be easily varied, different levels of command modeled utilizing WARPAM could be easily varied using CSM II model outputs. The input file from the CSM II model must be configured in the format shown immediately below.

	M		S	S	CASUALTIES	
T	P		K	E	BATTLE	DNBI
P	C	MOS	L	X		
01	E	00B	*	*	0	0

LEGEND:
TP--TIME PERIOD
MPC--MIL PERSONNEL CATEGORY
SKL--GRADE

The processing flow of the CSMII module is shown below at Figure 5.

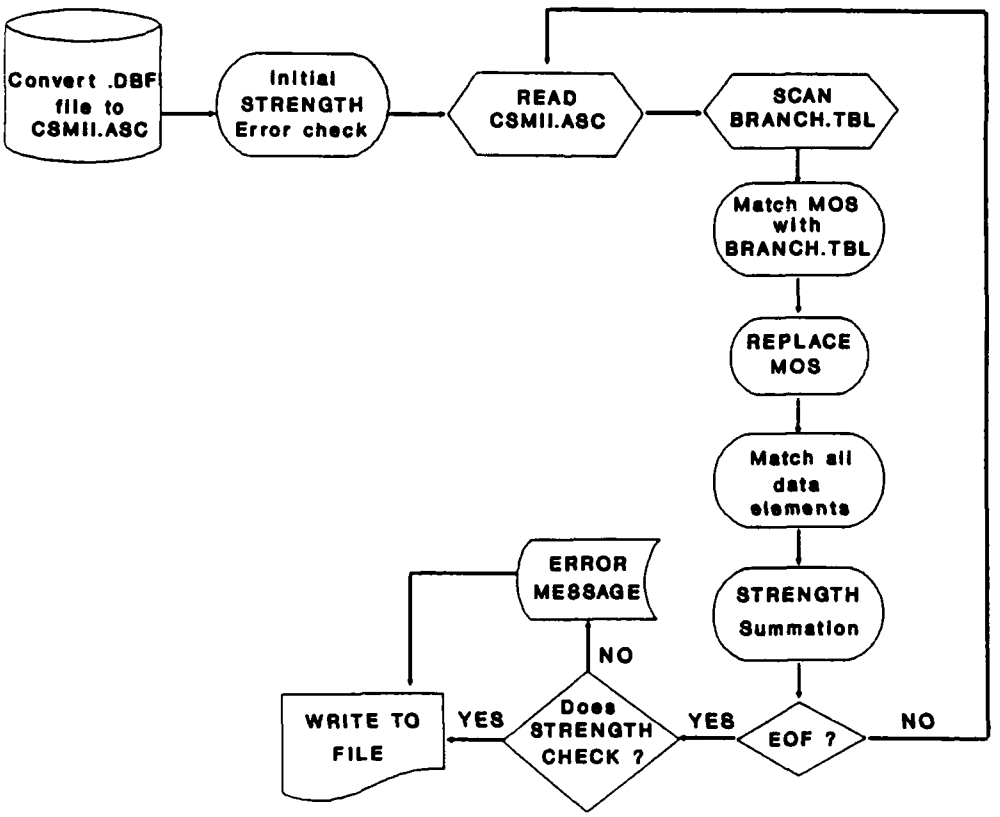


FIGURE 5: CSM II FILE CONVERSION

4.5.2 CSM II FORTRAN PROGRAMS

```
************************************************************************
*                                                                      *
* PROGRAMMER : JOHN A. TENSHAW                                         *
* COMPANY    : SAIC                                                    *
* ADDRESS    : 1710 GOODRIDGE DR. MS-T-1-7-2, MCLEAN, VA. 22102        *
* PHONE      : 703-734-5584                                            *
* DATE       : 25 APRIL 90                                             *
*                                                                      *
************************************************************************

************************************************************************
*                                                                      *
* PROGRAM CSMII                                                        *
* This program reads the csmii.dat file, condenses the info according  *
* to mos groupings, skill, and sex, and then creates an output file    *
* to store the total num. of casualties.                               *
*                                                                      *
************************************************************************

* DEFINITION OF VARIABLES :
*   NUME, NUMO, NUMW - the number of rows in the enlisted, officer,
*                      and warrant officer matrices.
*   PERIOD - the number of time periods.
*   EBMAT, ENBMAT - the enlisted battle/non-battle casualty matrices.
*   OBMAT, ONBMAT - the officer battle/non-battle casualty matrices.
*   WBMAT, WNBMAT - the warrant off battle/non-battle casualty matrices
*   TP - the time period specified on the input line; chars. 1 + 2
*        of input line.
*   BAT, NBAT - the battle/non-battle casualties specified on the
*               input line.
*   MPC - either o/w/e; the 4th char. of the input line.
*   MTAG1, MTAG2 - the last 2 chars. in mos, blank except for warrant
*                  officers; chars. 8 + 9 of input line.
*   SKL - the skill number or *; char. 12 of input line.
*   SEX - the sex of the personnel, either m/x/*; char.15 of input line
*   CTR1, CTR2 = integer counters
*   COUNT = the num of lines of input read in
*   THERE = a logical variable; does the file exist or not


*   VIEW OF THE OFFICER MATRIX :
*     - EACH MATRIX ELEMENT IS A SIX DIGIT INTEGER
*     - EACH MOS TYPE ACTUALLY CONSISTS OF 4 CONSECUTIVE ROWS;
*       WITH THE ROW NUMS IN PARENTHESIS

*                                TIME PERIODS
*          1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18
*     OAD (1-4)
*     OAR (5-8)
*     OAV (9-12)
```

```
*     OCE (13-16)          AN EXAMPLE MOS SET OF 4 ROWS :
*     OCM (17-20)            1 - MOS - SEX=M - SKILL=14
*  M  OCS (21-24)            2 - MOS - SEX=*/X - SKILL=14
*  O  OFA (25-28)            3 - MOS - SEX=M - SKILL=59
*  S  OIN (29-32)            4 - MOS - SEX=*/X - SKILL=FD
*     OMC (33-36)
*     OMI (37-40)
*     OMP (41-44)
*     OOD (45-48)
*     OQM (49-52)
*     OSC (53-56)
*     OTC (57-60)


*   VIEW OF THE WARRANT OFFICER MATRIX :
*     - EACH MATRIX ELEMENT IS A SIX DIGIT INTEGER
*     - EACH MOS TYPE ACTUALLY CONSISTS OF 2 CONSECUTIVE ROWS;
*       WITH THE ROW NUMS IN PARENTHESIS

*                                TIME PERIODS
*          1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18
*  M  WCB (1-2)            AN EXAMPLE MOS SET OF 2 ROWS :
*  O  WCC (3-4)              1 - MOS - SEX=MALE - SKILL=WW
*  S  WCS (5-6)              2 - MOS - SEX=*/X - SKILL=WW


*   VIEW OF THE ENLISTED MATRIX :
*     - EACH MATRIX ELEMENT IS A SIX DIGIT INTEGER
*     - EACH MOS TYPE ACTUALLY CONSISTS OF 4 CONSECUTIVE ROWS;
*       WITH THE ROW NUMS IN PARENTHESIS

*                                TIME PERIODS
*          1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18
*     EAD (1-4)
*     EAR (5-8)
*     EAV (9-12)           AN EXAMPLE MOS SET OF 4 ROWS :
*  M  ECE (13-16)            1 - MOS - SEX=M - SKILL=CO
*  O  ECM (17-20)            2 - MOS - SEX=*/X - SKILL=CO
*  S  ECS (21-24)            3 - MOS - SEX=M - SKILL=FD
*     EFA (25-28)            4 - MOS - SEX=*/X - SKILL=59
*     EIN (29-32)
*     EMC (33-36)
*     EMI (37-40)
*     EMM (41-44)
*     EMP (45-48)
*     EOD (49-52)
*     EQM (53-56)
*     ESC (57-60)
*     ESM (61-64)
*     ETC (65-68)
```

```
      INTEGER NUME, NUMO, NUMW, PERIOD
      PARAMETER (NUME = 68, NUMO = 60, NUMW = 6, PERIOD = 18)
      INTEGER EBMAT, OBMAT, WBMAT, ENBMAT, ONBMAT, WNBMAT
      DIMENSION EBMAT (NUME, PERIOD), ENBMAT (NUME, PERIOD)
      DIMENSION OBMAT (NUMO, PERIOD), ONBMAT (NUMO, PERIOD)
      DIMENSION WBMAT (NUMW, PERIOD), WNBMAT (NUMW, PERIOD)
      INTEGER TP, BAT, NBAT
      CHARACTER MPC, MTAG1, MTAG2, SKL, SEX
      INTEGER CTR1, CTR2, COUNT
      LOGICAL THERE

*************************************************************************

* Initialize the ematrx to 0
      DO 6, CTR1 = 1, NUME
       DO 5, CTR2 = 1, PERIOD
          EBMAT (CTR1, CTR2) = 0
          ENBMAT (CTR1, CTR2) = 0
 5          CONTINUE
 6       CONTINUE

* Initialize the omatrx to 0
      DO 8, CTR1 = 1, NUMO
       DO 7, CTR2 = 1, PERIOD
          OBMAT (CTR1, CTR2) = 0
          ONBMAT (CTR1, CTR2) = 0
 7          CONTINUE
 8       CONTINUE

* Initialize the wmatrx to 0
      DO 10, CTR1 = 1, NUMW
       DO 9, CTR2 = 1, PERIOD
          WBMAT (CTR1, CTR2) = 0
          WNBMAT (CTR1, CTR2) = 0
 9          CONTINUE
 10      CONTINUE

* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/CSMII.DAT',EXIST = THERE)
      IF (.NOT. THERE) THEN
        PRINT *, ' ERROR - CSMII.DAT DOES NOT EXIST'
        GO TO 110
      END IF

* If output file exists, delete it
      INQUIRE (FILE = '/home/warpam/CSMII.OUT',EXIST = THERE)
      IF (THERE) THEN
      OPEN(UNIT = 2,FILE = '/home/warpam/CSMII.OUT',
     $        STATUS = 'OLD')
        CLOSE (2, STATUS = 'DELETE')
      END IF
```

```
* Open the input and output files
      OPEN(UNIT = 1, FILE = '/home/warpam/CSMII.DAT',
     $     STATUS = 'OLD')
      OPEN(UNIT = 2, FILE = '/home/warpam/CSMII.OUT',
     $     STATUS = 'NEW')

* Initialize count = 1
      COUNT = 1

* Skip first three lines
 15   READ (1, '(A1)', END = 100) SEX
      IF (COUNT .LE. 4) THEN
        COUNT = COUNT + 1
        GO TO 15
      END IF

* Read input line and check for errors
 20   READ(1, 40, END = 80) TP, MPC, MOSNM, MTAG1, MTAG2, SKL,
     $     SEX, BAT, NBAT

 40   FORMAT(I2,1X,A1,1X,I2,A1,A1,2X,A1,2X,A1,1X,I6,3X,I6)

* Find correct row and modify matrices
      IF (MPC .EQ. 'O') THEN
      CALL OROW (OBMAT, ONBMAT, MOSNM, NUMO, PERIOD, SKL, SEX, TP,
     $             BAT, NBAT)
      ELSE IF (MPC .EQ. 'W') THEN
      CALL WROW (WBMAT, WNBMAT, MOSNM, NUMW, PERIOD, SEX, TP,
     $             BAT, NBAT)
      ELSE
      CALL EROW (EBMAT, ENBMAT, MOSNM, MTAG1, NUME, PERIOD, SKL, SEX,
     $             TP, BAT, NBAT)
      ENDIF

* Increment count +1
      COUNT = COUNT + 1

* Go back to start of loop
      GO TO 20

 80   CALL PRINTMATRIX (OBMAT, ONBMAT, NUMO, WBMAT, WNBMAT, NUMW,
     $                  EBMAT, ENBMAT, NUME, PERIOD)

* Close files and exit program
 100  CLOSE(1, STATUS = 'KEEP')
      CLOSE(2, STATUS = 'KEEP')
 110  END
```

```
      SUBROUTINE EROW (ARRAY1, ARRAY2, MOSNM, MT1, NUMP, PER, SKILL,
     $                 SX, TIME, BT, NBT)
************************************************************************
*                                                                      *
* SUBROUTINE EROW                                                      *
* This subroutine finds the correct 4 rows in the enlisted matrix, +   *
* passes them to 'modifyemat' to update the battle and non-battle      *
* matrix quantities.                                                   *
*                                                                      *
************************************************************************

      CHARACTER SKILL, SX, MT1
      INTEGER NUMP, MOSNM, PER, TIME, BT, NBT, ARRAY1, ARRAY2
      DIMENSION ARRAY1 (NUMP, PER), ARRAY2 (NUMP, PER)

* ECE
      IF (((MOSNM .EQ. 41) .AND. (MT1 .EQ. 'B')) .OR.
     $    ((MOSNM .EQ. 52) .AND. ((MT1. EQ. 'E') .OR.
     $     (MT1 .EQ. 'G')))) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                 BT, NBT, 13, 14, 15, 16)
* EFA
      ELSE IF (((MOSNM .EQ. 21) .AND. (MT1 .EQ. 'G')) .OR.
     $         ((MOSNM .EQ. 82) .AND. (MT1 .EQ. 'C')) .OR.
     $         ((MOSNM .EQ. 93) .AND. (MT1 .EQ. 'F'))) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                 BT, NBT, 25, 26, 27, 28)
* EMC
      ELSE IF (((MOSNM .EQ. 71) .AND. (MT1 .EQ. 'G')) .OR.
     $         ((MOSNM .EQ. 76) .AND. (MT1 .EQ. 'J')) .OR.
     $         ((MOSNM .EQ. 94) .AND. (MT1 .EQ. 'F'))) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                 BT, NBT, 33, 34, 35, 36)
* EMM
      ELSE IF (((MOSNM .EQ. 25) .AND. (MT1 .EQ. 'L')) .OR.
     $         ((MOSNM .EQ. 46) .AND. (MT1 .EQ. 'N'))) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                 BT, NBT, 41, 42, 43, 44)
* EOD
      ELSE IF ((MOSNM .EQ. 62) .AND. (MT1 .EQ. 'B')) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                 BT, NBT, 49, 50, 51, 52)
* ESM
      ELSE IF ((MOSNM .EQ. 35) .AND. (MT1 .EQ. 'H')) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                 BT, NBT, 61, 62, 63, 64)
* EAD
```

```
      ELSE IF (MOSNM .EQ. 16) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 1, 2, 3, 4)
* EAR
      ELSE IF (MOSNM .EQ. 19) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 5, 6, 7, 8)
* EAV
      ELSE IF ((MOSNM .EQ. 66) .OR. (MOSNM .EQ. 67) .OR.
     $         (MOSNM .EQ. 68) .OR. (MOSNM .EQ. 93)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 9, 10, 11, 12)
* ECE
      ELSE IF ((MOSNM .EQ. 12) .OR. (MOSNM .EQ. 51) .OR.
     $         (MOSNM .EQ. 62) .OR. (MOSNM .EQ. 81) .OR.
     $         (MOSNM .EQ. 82)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 13, 14, 15, 16)
* ECM
      ELSE IF (MOSNM .EQ. 54) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 17, 18, 19, 20)
* EFA
      ELSE IF ((MOSNM .EQ. 13) .OR. (MOSNM .EQ. 15) .OR.
     $         (MOSNM .EQ. 17)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 25, 26, 27, 28)
* EIN
      ELSE IF ((MOSNM .EQ. 11) .OR. (MOSNM .EQ. 18)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 29, 30, 31, 32)
* EMC
      ELSE IF ((MOSNM .EQ. 1) .OR. (MOSNM .EQ. 35) .OR.
     $         (MOSNM .EQ. 42) .OR. (MOSNM .EQ. 91) .OR.
     $         (MOSNM .EQ. 92)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 33, 34, 35, 36)
* EMI
      ELSE IF ((MOSNM .EQ. 5) .OR. (MOSNM .EQ. 96) .OR.
     $         (MOSNM .EQ. 97) .OR. (MOSNM .EQ. 98)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 37, 38, 39, 40)
* EMM
      ELSE IF ((MOSNM .EQ. 21) .OR. (MOSNM .EQ. 24) .OR.
     $         (MOSNM .EQ. 26) .OR. (MOSNM .EQ. 27)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 41, 42, 43, 44)
* EMP
      ELSE IF (MOSNM .EQ. 95) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 45, 46, 47, 48)
* EOD
```

```
      ELSE IF ((MOSNM .EQ. 41) .OR. (MOSNM .EQ. 44) .OR.
     $         (MOSNM .EQ. 45) .OR. (MOSNM .EQ. 52) .OR.
     $         (MOSNM .EQ. 63)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 49, 50, 51, 52)
* EQM
      ELSE IF ((MOSNM .EQ. 43) .OR. (MOSNM .EQ. 55) .OR.
     $         (MOSNM .EQ. 57) .OR. (MOSNM .EQ. 76) .OR.
     $         (MOSNM .EQ. 77) .OR. (MOSNM .EQ. 94)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 53, 54, 55, 56)
* ESC
      ELSE IF ((MOSNM .EQ. 29) .OR. (MOSNM .EQ. 31) .OR.
     $         (MOSNM .EQ. 36) .OR. (MOSNM .EQ. 72)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 57, 58, 59, 60)
* ESM
      ELSE IF ((MOSNM .EQ. 33) .OR. (MOSNM .EQ. 39)) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 61, 62, 63, 64)
* ETC
      ELSE IF (MOSNM .EQ. 88) THEN
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 65, 66, 67, 68)
* ECS
      ELSE
      CALL MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 21, 22, 23, 24)
      ENDIF

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE GRADESEX (TYPE, ROW, GRADE, SEX)
*************************************************************************
*                                                                       *
* SUBROUTINE GRADESEX                                                   *
* This subroutine determines the grade and sex given the matrix row     *
* number.                                                               *
*                                                                       *
*************************************************************************

      INTEGER ROW
      CHARACTER TYPE, SEX, GRADE*2

* Officer
      IF (TYPE .EQ. 'O') THEN
      IF (MOD (ROW,4) .EQ. 0) THEN
        SEX = 'X'
        GRADE = 'FD'
      ELSE IF (MOD (ROW,4) .EQ. 3) THEN
        SEX = 'M'
        GRADE = 'FD'
      ELSE IF (MOD (ROW,4) .EQ. 2) THEN
        SEX = 'X'
        GRADE = 'CO'
      ELSE
        SEX = 'M'
        GRADE = 'CO'
      ENDIF
* Enlisted
      ELSE
      IF (MOD (ROW,4) .EQ. 0) THEN
        SEX = 'X'
        GRADE = '59'
      ELSE IF (MOD (ROW,4) .EQ. 3) THEN
        SEX = 'M'
        GRADE = '59'
      ELSE IF (MOD (ROW,4) .EQ. 2) THEN
        SEX = 'X'
        GRADE = '14'
      ELSE
        SEX = 'M'
        GRADE = '14'
      ENDIF
      END IF

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE OROW (ARRAY1, ARRAY2, MOSNM, NUMP, PER, SKILL, SX,
     $                 TIME, BT, NBT)
************************************************************************
*                                                                      *
* SUBROUTINE OROW                                                      *
* This subroutine finds the correct 4 rows in the officer matrix, and  *
* passes them to 'modifyomat' to update the battle and non-battle      *
* matrix quantities.                                                   *
*                                                                      *
************************************************************************

      CHARACTER SKILL, SX
      INTEGER NUMP, MOSNM, PER, TIME, BT, NBT, ARRAY1, ARRAY2
      DIMENSION ARRAY1 (NUMP, PER), ARRAY2 (NUMP, PER)

* OAD
      IF (MOSNM .EQ. 14) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 1, 2, 3, 4)
* OAR
      ELSE IF (MOSNM .EQ. 12) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 5, 6, 7, 8)
* OAV
      ELSE IF (MOSNM .EQ. 15) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 9, 10, 11, 12)
* OCE
      ELSE IF (MOSNM .EQ. 21) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 13, 14, 15, 16)
* OCM
      ELSE IF (MOSNM .EQ. 74) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 17, 18, 19, 20)
* OFA
      ELSE IF (MOSNM .EQ. 13) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 25, 26, 27, 28)
* OIN
      ELSE IF (MOSNM .EQ. 11 .OR. MOSNM .EQ. 18) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 29, 30, 31, 32)
* OMC
      ELSE IF ((MOSNM .GE. 60 .AND. MOSNM .LE. 68) .OR.
     $         MOSNM .EQ. 74) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 33, 34, 35, 36)
* OMI
      ELSE IF (MOSNM .EQ. 35) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                     BT, NBT, 37, 38, 39, 40)
```

```
* OMP
      ELSE IF (MOSNM .EQ. 31) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 41, 42, 43, 44)
* OOD
      ELSE IF (MOSNM .EQ. 91) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 45, 46, 47, 48)
* OQM
      ELSE IF (MOSNM .EQ. 92) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 49, 50, 51, 52)
* OSC
      ELSE IF (MOSNM .EQ. 25) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 53, 54, 55, 56)
* OTC
      ELSE IF (MOSNM .EQ. 88 .OR. MOSNM .EQ. 95) THEN
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 57, 58, 59, 60)
* OCS
      ELSE
      CALL MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX, TIME,
     $                      BT, NBT, 21, 22, 23, 24)
      END IF

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE MODIFYEMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX,
     $                       TIME, BT, NBT, R1, R2, R3, R4)
*************************************************************************
*                                                                       *
* SUBROUTINE MODIFYEMAT                                                 *
* This subroutine determines the skill and sex of the officer, and      *
* updated the matrix rows accordingly.                                  *
*                                                                       *
*************************************************************************

      CHARACTER SKILL, SX
      INTEGER NUMP, PER, TIME, BT, NBT, R1, R2, R3, R4, ARRAY1, ARRAY2
      DIMENSION ARRAY1 (NUMP, PER), ARRAY2 (NUMP, PER)

      IF (SKILL .EQ. '*') THEN
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (R2, TIME) = ARRAY1 (R2,TIME) + NINT (BT * 0.7)
        ARRAY1 (R4, TIME) = ARRAY1 (R4,TIME) + NINT (BT * 0.3)
        ARRAY2 (R2, TIME) = ARRAY2 (R2,TIME) + NINT (NBT * 0.7)
        ARRAY2 (R4, TIME) = ARRAY2 (R4,TIME) + NINT (NBT * 0.3)
      ELSE
        ARRAY1 (R1, TIME) = ARRAY1 (R1,TIME) + NINT (BT * 0.7)
        ARRAY1 (R3, TIME) = ARRAY1 (R3,TIME) + NINT (BT * 0.3)
        ARRAY2 (R1, TIME) = ARRAY2 (R1,TIME) + NINT (NBT * 0.7)
        ARRAY2 (R3, TIME) = ARRAY2 (R3,TIME) + NINT (NBT * 0.3)
      ENDIF
      ELSE IF (SKILL .EQ. '1') THEN
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (R2, TIME) = ARRAY1 (R2,TIME) + BT
        ARRAY2 (R2, TIME) = ARRAY2 (R2,TIME) + NBT
      ELSE
        ARRAY1 (R1, TIME) = ARRAY1 (R1,TIME) + BT
        ARRAY2 (R1, TIME) = ARRAY2 (R1,TIME) + NBT
      ENDIF
      ELSE
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (R4, TIME) = ARRAY1 (R4,TIME) + BT
        ARRAY2 (R4, TIME) = ARRAY2 (R4,TIME) + NBT
      ELSE
        ARRAY1 (R3, TIME) = ARRAY1 (R3,TIME) + BT
        ARRAY2 (R3, TIME) = ARRAY2 (R3,TIME) + NBT
      ENDIF
      ENDIF

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE MODIFYOMAT (ARRAY1, ARRAY2, NUMP, PER, SKILL, SX,
     $                       TIME, BT, NBT, R1, R2, R3, R4)
*************************************************************************
*                                                                       *
* SUBROUTINE MODIFYOMAT                                                 *
* This subroutine determines the skill and sex of the officer, and      *
* updated the matrix rows accordingly.                                  *
*                                                                       *
*************************************************************************

      CHARACTER SKILL, SX
      INTEGER NUMP, PER, TIME, BT, NBT, R1, R2, R3, R4, ARRAY1, ARRAY2
      DIMENSION ARRAY1 (NUMP, PER), ARRAY2 (NUMP, PER)

      IF (SKILL .EQ. '*') THEN
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (R2, TIME) = ARRAY1 (R2,TIME) + NINT (BT * 0.7)
        ARRAY1 (R4, TIME) = ARRAY1 (R4,TIME) + NINT (BT * 0.3)
        ARRAY2 (R2, TIME) = ARRAY2 (R2,TIME) + NINT (NBT * 0.7)
        ARRAY2 (R4, TIME) = ARRAY2 (R4,TIME) + NINT (NBT * 0.3)
      ELSE
        ARRAY1 (R1, TIME) = ARRAY1 (R1,TIME) + NINT (BT * 0.7)
        ARRAY1 (R3, TIME) = ARRAY1 (R3,TIME) + NINT (BT * 0.3)
        ARRAY2 (R1, TIME) = ARRAY2 (R1,TIME) + NINT (NBT * 0.7)
        ARRAY2 (R3, TIME) = ARRAY2 (R3,TIME) + NINT (NBT * 0.3)
      ENDIF
      ELSE IF (SKILL .EQ. '3' .OR. SKILL .EQ. '2' .OR.
     $         SKILL .EQ.'1') THEN
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (R2, TIME) = ARRAY1 (R2,TIME) + BT
        ARRAY2 (R2, TIME) = ARRAY2 (R2,TIME) + NBT
      ELSE
        ARRAY1 (R1, TIME) = ARRAY1 (R1,TIME) + BT
        ARRAY2 (R1, TIME) = ARRAY2 (R1,TIME) + NBT
      ENDIF
      ELSE
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (R4, TIME) = ARRAY1 (R4,TIME) + BT
        ARRAY2 (R4, TIME) = ARRAY2 (R4,TIME) + NBT
      ELSE
        ARRAY1 (R3, TIME) = ARRAY1 (R3,TIME) + BT
        ARRAY2 (R3, TIME) = ARRAY2 (R3,TIME) + NBT
      ENDIF
      ENDIF

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE PRINTMATRIX (OM1, OM2, ONUM, WM1, WM2, WNUM,
     $                        EM1, EM2, ENUM, PER)
************************************************************************
*                                                                      *
* SUBROUTINE PRINTMATRIX                                               *
* This subroutine prints the officer/warrant officer/enlisted matrix   *
* info for battle/non-battle casualties.                               *
*                                                                      *
************************************************************************

      INTEGER ONUM, WNUM, ENUM, PER
      INTEGER OM1, OM2, WM1, WM2, EM1, EM2
      DIMENSION OM1 (ONUM, PER), OM2 (ONUM, PER)
      DIMENSION WM1 (WNUM, PER), WM2 (WNUM, PER)
      DIMENSION EM1 (ENUM, PER), EM2 (ENUM, PER)
      INTEGER CNT1, CNT2
      CHARACTER HEAD0*47, HEAD1*46, HEAD2*48, CATBRG*3, GRADE*2, SEX

* Print Header info.
      HEAD0 = '                     BATTLE   NON-BATTLE   TOTAL'
      HEAD1 = ' TP   CATBRGD   S    STR        STR        STR'
      HEAD2 = '---- --------- --- -------- ----------- -------'
*              BXXBBBBXXXXXBBBBXBBBXXXXXBBBBBXXXXXBBBBBXXXXX
      WRITE(2,500) HEAD0, HEAD1, HEAD2

* The header format
 500  FORMAT(1X,A47/1X,A46,/1X,A48)

* Go thru matrix and print qty if qty != 0
      DO 560, CNT1 = 1, PER
* Print officers
       DO 550, CNT2 = 1, ONUM
          IF (OM1 (CNT2, CNT1) .NE. 0 .OR.
     $              OM2 (CNT2, CNT1) .NE. 0) THEN
            IF (CNT2 .GE. 1 .AND. CNT2 .LE. 4) THEN
            CATBRG = 'OAD'
            ELSE IF (CNT2 .GE. 5 .AND. CNT2 .LE. 8) THEN
            CATBRG = 'OAR'
            ELSE IF (CNT2 .GE. 9 .AND. CNT2 .LE. 12) THEN
            CATBRG = 'OAV'
            ELSE IF (CNT2 .GE. 13 .AND. CNT2 .LE. 16) THEN
            CATBRG = 'OCE'
            ELSE IF (CNT2 .GE. 17 .AND. CNT2 .LE. 20) THEN
            CATBRG = 'OCM'
            ELSE IF (CNT2 .GE. 21 .AND. CNT2 .LE. 24) THEN
            CATBRG = 'OCS'
            ELSE IF (CNT2 .GE. 25 .AND. CNT2 .LE. 28) THEN
            CATBRG = 'OFA'
            ELSE IF (CNT2 .GE. 29 .AND. CNT2 .LE. 32) THEN
            CATBRG = 'OIN'
            ELSE IF (CNT2 .GE. 33 .AND. CNT2 .LE. 36) THEN
            CATBRG = 'OMC'
```

```
            ELSE IF (CNT2 .GE. 37 .AND. CNT2 .LE. 40) THEN
            CATBRG = 'OMI'
            ELSE IF (CNT2 .GE. 41 .AND. CNT2 .LE. 44) THEN
            CATBRG = 'OMP'
            ELSE IF (CNT2 .GE. 45 .AND. CNT2 .LE. 48) THEN
            CATBRG = 'OOD'
            ELSE IF (CNT2 .GE. 49 .AND. CNT2 .LE. 52) THEN
            CATBRG = 'OQM'
            ELSE IF (CNT2 .GE. 53 .AND. CNT2 .LE. 56) THEN
            CATBRG = 'OSC'
            ELSE
            CATBRG = 'OTC'
            ENDIF

            CALL GRADESEX ('O', CNT2, GRADE, SEX)

* Determine appropriate write format type; if cntl <= 9 you must add
* a 0 to the front
            IF (CNT1 .LE. 9) THEN
            WRITE(2,570) CNT1, CATBRG, GRADE, SEX, OM1 (CNT2,CNT1),
     $                        OM2 (CNT2,CNT1),
     $                        OM1 (CNT2,CNT1) + OM2 (CNT2,CNT1)
            ELSE
            WRITE(2,580) CNT1, CATBRG, GRADE, SEX, OM1 (CNT2,CNT1),
     $                        OM2 (CNT2,CNT1),
     $                        OM1 (CNT2,CNT1) + OM2 (CNT2,CNT1)
            ENDIF
          ENDIF
 550        CONTINUE

* Print warrant officers
      GRADE = 'WW'
      DO 553, CNT2 = 1, WNUM
          IF (WM1 (CNT2, CNT1) .NE. 0 .OR.
     $          WM2 (CNT2, CNT1) .NE. 0) THEN
            IF (CNT2 .EQ. 1) THEN
            CATBRG = 'WCB'
            SEX = 'M'
            ELSE IF(CNT2 .EQ. 2) THEN
            CATBRG = 'WCB'
            SEX = 'X'
            ELSE IF(CNT2 .EQ. 3) THEN
            CATBRG = 'WCC'
            SEX = 'M'
            ELSE IF(CNT2 .EQ. 4) THEN
            CATBRG = 'WCC'
            SEX = 'X'
            ELSE IF(CNT2 .EQ. 5) THEN
            CATBRG = 'WCS'
            SEX = 'M'
            ELSE
            CATBRG = 'WCS'
```

```
            SEX = 'X'
            END IF

* Determine appropriate write format type; if cntl <= 9 you must add
* a 0 to the front
            IF (CNT1 .LE. 9) THEN
            WRITE(2,570) CNT1, CATBRG, GRADE, SEX, WM1 (CNT2,CNT1),
     $                        WM2 (CNT2,CNT1),
     $                        WM1 (CNT2,CNT1) + WM2 (CNT2,CNT1)
            ELSE
            WRITE(2,580) CNT1, CATBRG, GRADE, SEX, WM1 (CNT2,CNT1),
     $                        WM2 (CNT2,CNT1),
     $                        WM1 (CNT2,CNT1) + WM2 (CNT2,CNT1)
            ENDIF
          ENDIF
 553     CONTINUE

* Print enlisted
       DO 555, CNT2 = 1, ENUM
          IF (EM1 (CNT2, CNT1) .NE. 0 .OR.
     $          EM2 (CNT2, CNT1) .NE. 0) THEN
            IF (CNT2 .GE. 1 .AND. CNT2 .LE. 4) THEN
            CATBRG = 'EAD'
            ELSE IF (CNT2 .GE. 5 .AND. CNT2 .LE. 8) THEN
            CATBRG = 'EAR'
            ELSE IF (CNT2 .GE. 9 .AND. CNT2 .LE. 12) THEN
            CATBRG = 'EAV'
            ELSE IF (CNT2 .GE. 13 .AND. CNT2 .LE. 16) THEN
            CATBRG = 'ECE'
            ELSE IF (CNT2 .GE. 17 .AND. CNT2 .LE. 20) THEN
            CATBRG = 'ECM'
            ELSE IF (CNT2 .GE. 21 .AND. CNT2 .LE. 24) THEN
            CATBRG = 'ECS'
            ELSE IF (CNT2 .GE. 25 .AND. CNT2 .LE. 28) THEN
            CATBRG = 'EFA'
            ELSE IF (CNT2 .GE. 29 .AND. CNT2 .LE. 32) THEN
            CATBRG = 'EIN'
            ELSE IF (CNT2 .GE. 33 .AND. CNT2 .LE. 36) THEN
            CATBRG = 'EMC'
            ELSE IF (CNT2 .GE. 37 .AND. CNT2 .LE. 40) THEN
            CATBRG = 'EMI'
            ELSE IF (CNT2 .GE. 41 .AND. CNT2 .LE. 44) THEN
            CATBRG = 'EMM'
            ELSE IF (CNT2 .GE. 45 .AND. CNT2 .LE. 48) THEN
            CATBRG = 'EMP'
            ELSE IF (CNT2 .GE. 49 .AND. CNT2 .LE. 52) THEN
            CATBRG = 'EOD'
            ELSE IF (CNT2 .GE. 53 .AND. CNT2 .LE. 56) THEN
            CATBRG = 'EQM'
            ELSE IF (CNT2 .GE. 57 .AND. CNT2 .LE. 60) THEN
            CATBRG = 'ESC'
            ELSE IF (CNT2 .GE. 61 .AND. CNT2 .LE. 64) THEN
```

```
            CATBRG = 'ESM'
            ELSE
            CATBRG = 'ETC'
            ENDIF

            CALL GRADESEX ('E', CNT2, GRADE, SEX)

* Determine appropriate write format type; if cntl <= 9 you must add
* a 0 to the front
            IF (CNT1 .LE. 9) THEN
            WRITE(2,570) CNT1, CATBRG, GRADE, SEX, EM1 (CNT2,CNT1),
     $                        EM2 (CNT2,CNT1),
     $                        EM1 (CNT2,CNT1) + EM2 (CNT2,CNT1)
            ELSE
            WRITE(2,580) CNT1, CATBRG, GRADE, SEX, EM1 (CNT2,CNT1),
     $                        EM2 (CNT2,CNT1),
     $                        EM1 (CNT2,CNT1) + EM2 (CNT2,CNT1)
            ENDIF
          ENDIF
 555        CONTINUE
 560     CONTINUE

* The write format
 570  FORMAT (2X,'0',I1,4X,A3,A2,4X,A1,3X,I6,4X,I6,4X,I6)
 580  FORMAT (2X,I2,4X,A3,A2,4X,A1,3X,I6,4X,I6,4X,I6)

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE WROW (ARRAY1, ARRAY2, MOSNM, NUMP, PER, SX,
     $                 TIME, BT, NBT)
*************************************************************************
*                                                                       *
* SUBROUTINE WROW                                                       *
* This subroutine finds the correct 4 rows in the warrant officer       *
* matrix, and updates the battle and non-battle matrix quantities.      *
*                                                                       *
*************************************************************************

      CHARACTER SX
      INTEGER NUMP, MOSNM, PER, TIME, BT, NBT, ARRAY1, ARRAY2
      DIMENSION ARRAY1 (NUMP, PER), ARRAY2 (NUMP, PER)

* WCB
      IF (MOSNM .GE. 10 .AND. MOSNM .LE. 19) THEN
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (2, TIME) = ARRAY1 (2,TIME) + BT
        ARRAY2 (2, TIME) = ARRAY2 (2,TIME) + NBT
      ELSE
        ARRAY1 (1, TIME) = ARRAY1 (1,TIME) + BT
        ARRAY2 (1, TIME) = ARRAY2 (1,TIME) + NBT
      ENDIF
* WCC
      ELSE IF ((MOSNM .GE. 20 .AND. MOSNM .LE. 39) .OR.
     $    (MOSNM .GE. 60 .AND. MOSNM .LE. 69)) THEN
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (6, TIME) = ARRAY1 (6,TIME) + BT
        ARRAY2 (6, TIME) = ARRAY2 (6,TIME) + NBT
      ELSE
        ARRAY1 (5, TIME) = ARRAY1 (5,TIME) + BT
        ARRAY2 (5, TIME) = ARRAY2 (5,TIME) + NBT
      ENDIF
* WCS
      ELSE
      IF (SX .EQ. '*' .OR. SX .EQ. 'X') THEN
        ARRAY1 (4, TIME) = ARRAY1 (4,TIME) + BT
        ARRAY2 (4, TIME) = ARRAY2 (4,TIME) + NBT
      ELSE
        ARRAY1 (3, TIME) = ARRAY1 (3,TIME) + BT
        ARRAY2 (3, TIME) = ARRAY2 (3,TIME) + NBT
      ENDIF
      END IF

* Exit subroutine
      RETURN
      END
```

4.6 MOBTNGBS (MOBARPRINT) MODULE

4.6.1 GENERAL

The MOBTNGBS (Mobilization Training Base) module converts the output file generated from the MOBARPRINT program produced for HQDA, ODCSPER to standard WARPAM format. The incoming file is supplied by the support contractor on a single 5 1/4" low-density floppy disk in ASCII format. This module requires that the Branch.Tbl be present for processing. The output from this conversion is an asset file of skill level one training base assets which receive the asset code "TRN". The processing flow through the MOBTNGBS module is shown below at Figure 6.

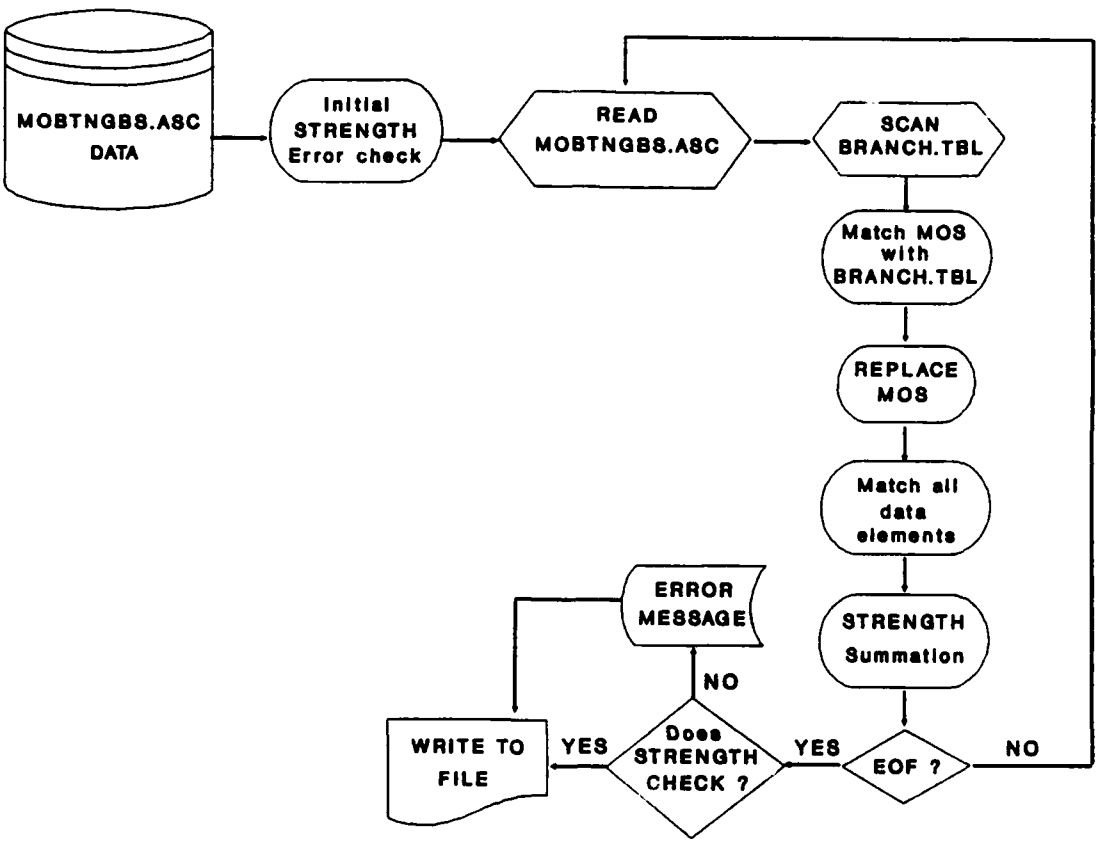


FIGURE 6: MOBTNGBS FILE CONVERSION

4.6.2 MOBTNGBS FORTRAN PROGRAMS

```
*************************************************************************
*                                                                       *
* PROGRAMMER : JOHN A. TENSHAW                                          *
* COMPANY    : SAIC                                                     *
* ADDRESS    : 1710 GOODRIDGE DR. MS-T-1-7-2, MCLEAN, VA. 22102         *
* PHONE      : 703-734-5584                                             *
* DATE       : 20 APRIL 90                                              *
*                                                                       *
*************************************************************************

*************************************************************************
*                                                                       *
* Program MOBTNGBS                                                      *
* This program reads the MOBTNGBS file and condenses the info.          *
* according to mos types and prints out the results per time period     *
*                                                                       *
*************************************************************************


* Define variables
*   NUMMOS = the num. of diff. mos types; the num of rows (ie. EAD)
*   PERIOD = the 18 time periods; the num of cols
*   MATRIX = a NUMMOS x PERIOD array representing mos and time periods
*   ROW = the row index
*   LABEL = first 2 MOS numbers (1st two chars on input line)
*   TAG = the third mos number (3rd char on input line)
*   TEMP = extra char that must be read in but not used
*          (4th char on input line)
*   V1...V18 = the 18 time period qtys. and total listed separate
*              (items 5 - 112 on input line)
*   CTR1, CTR2 = integer counters
*   COUNT = the num of lines of input read in


*   VIEW OF MATRIX :
*                                TIME PERIODS
*         1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18
*     A1
*     EAD
*     EAR
*     EAV       * EACH MATRIX ELEMENT IS A SIX DIGIT INTEGER
*  M  ECE
*  O  ECM       * A1 = LINE 1 OF INPUT; INPUTTED TIME PERIOD TOTALS
*  S  ECS       * Z1 = PROGRAM SUMMED TIME PERIOD TOTALS
*     EFA
*     EIN
*     EMC
*     EMI
*     EMM
*     EMP
```

```
*     EOD
*     EQM
*     ESC
*     ESM
*     ETC
*     Z1


      INTEGER NUMMOS, PERIOD
      PARAMETER (NUMMOS = 19, PERIOD = 18)
      INTEGER MATRIX
      DIMENSION MATRIX (NUMMOS, PERIOD)
      INTEGER ROW
      CHARACTER TAG, TEMP
      CHARACTER*4 FIRST
      INTEGER LABEL, V1, V2, V3, V4, V5, V6, V7, V8, V9, V10
      INTEGER V11, V12, V13, V14, V15, V16, V17, V18
      INTEGER CTR1, CTR2, COUNT
      LOGICAL THERE

*************************************************************************

* Initialize the matrix to 0
      DO 6, CTR1 = 1, NUMMOS
       DO 5, CTR2 = 1, PERIOD
          MATRIX (CTR1, CTR2) = 0
 5          CONTINUE
 6       CONTINUE

* If input file does not exist, stop
       INQUIRE (FILE = '/home/warpam/MOBTNGBS.DAT',
     $          EXIST = THERE)
       IF (.NOT. THERE) THEN
         PRINT *, 'ERROR - MOBTNGBS.DAT DOES NOT EXIST'
         GO TO 110
       END IF

* If output file exists, delete it
       INQUIRE (FILE = '/home/warpam/MOBTNGBS.OUT',
     $          EXIST = THERE)
       IF (THERE) THEN
       OPEN(UNIT = 2,FILE = '/home/warpam/MOBTNGBS.OUT',
     $        STATUS = 'OLD')
         CLOSE (2, STATUS = 'DELETE')
       END IF

* Open the input and output files
       OPEN(UNIT = 1, FILE = '/home/warpam/MOBTNGBS.DAT',
     $      STATUS = 'OLD')
       OPEN(UNIT = 2, FILE = '/home/warpam/MOBTNGBS.OUT',
     $      STATUS = 'NEW')
```

```
* initialize count = 1
      COUNT = 1

* Read input line and check for errors
 10   IF (COUNT .EQ. 1) THEN
      READ(1, 40, END = 80) FIRST, V1, V2, V3, V4, V5,
     $       V6,V7,V8,V9,V10,V11,V12,V13,V14,V15,V16,V17,V18
      ELSE
      READ(1, 50, END = 80) LABEL, TAG, TEMP, V1, V2, V3, V4, V5,
     $       V6,V7,V8,V9,V10,V11,V12,V13,V14,V15,V16,V17,V18
      ENDIF

 40   FORMAT(A4,18(I6))
 50   FORMAT(I2,2(A),18(I6))

* If count = 1, you have the input total line, so just modify row 1,
* otherwise find correct row.
      ROW = 1
      IF (COUNT .NE. 1) THEN
      CALL FINDROW (LABEL, TAG, ROW)
      ENDIF

* Modify that row in MATRIX
      CALL MATRIXADD (MATRIX,NUMMOS,PERIOD,ROW,V1,V2,V3,V4,V5,V6,V7,V8,
     $                V9,V10,V11,V12,V13,V14,V15,V16,V17,V18)

* Increment count +1
      COUNT = COUNT + 1

* Go back to start of loop
      GO TO 10

 80   CALL CHECKSUMS (MATRIX, NUMMOS, PERIOD)
      CALL PRINTMATRIX (MATRIX, NUMMOS, PERIOD)

* Close files and exit program
 100  CLOSE(1, STATUS = 'KEEP')
      CLOSE(2, STATUS = 'KEEP')
 110  END
```

```
****************** SUBROUTINES - IN ALPHABETICAL ORDER **************



      SUBROUTINE CHECKSUMS (ARRAY, MOS, PER)
*************************************************************************
*                                                                       *
* SUBROUTINE CHECKSUMS                                                  *
* This subroutine checks to make sure that the sum for each time        *
* period matches the sums on the first input line, else an error        *
* message will appear for each mismatch.                                *
*                                                                       *
*************************************************************************

      INTEGER MOS, PER
      INTEGER ARRAY
      DIMENSION ARRAY (MOS, PER)
      INTEGER CNT

      DO 150, CNT = 1, PER
      IF (ARRAY (1, CNT) .NE. ARRAY (MOS, CNT)) THEN
        WRITE (*,130) CNT

 130  FORMAT (1X, 'ERROR - TIME PERIOD ',I2,' TOTALS DON''T MATCH')
      ENDIF
 150    CONTINUE

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE FINDROW (LABL, LETTER, RW)
************************************************************************
*                                                                      *
* SUBROUTINE FINDROW                                                   *
* This subroutine finds the correct row num in MATRIX in which to      *
* add the new time period qtys. to.  ROW will then be the desired row  *
* number.                                                              *
*                                                                      *
************************************************************************

      INTEGER LABL, RW
      CHARACTER LETTER

      IF (((LABL .EQ. 41) .AND. (LETTER .EQ. 'B')) .OR.
     $    ((LABL .EQ. 52) .AND. ((LETTER. EQ. 'E') .OR.
     $     (LETTER .EQ. 'G')))) THEN
       RW = 4
       ELSE IF (((LABL .EQ. 21) .AND. (LETTER .EQ. 'G')) .OR.
     $          ((LABL .EQ. 82) .AND. (LETTER .EQ. 'C')) .OR.
     $          ((LABL .EQ. 93) .AND. (LETTER .EQ. 'F'))) THEN
            RW = 8
       ELSE IF (((LABL .EQ. 71) .AND. (LETTER .EQ. 'G')) .OR.
     $          ((LABL .EQ. 76) .AND. (LETTER .EQ. 'J')) .OR.
     $          ((LABL .EQ. 94) .AND. (LETTER .EQ. 'F'))) THEN
            RW = 10
       ELSE IF (((LABL .EQ. 25) .AND. (LETTER .EQ. 'L')) .OR.
     $          ((LABL .EQ. 46) .AND. (LETTER .EQ. 'N'))) THEN
            RW = 12
       ELSE IF ((LABL .EQ. 62) .AND. (LETTER .EQ. 'B')) THEN
            RW = 14
       ELSE IF ((LABL .EQ. 35) .AND. (LETTER .EQ. 'H')) THEN
            RW = 15
       ELSE IF (LABL .EQ. 16) THEN
       RW = 2
       ELSE IF (LABL .EQ. 19) THEN
       RW = 3
       ELSE IF ((LABL .EQ. 66) .OR. (LABL .EQ. 67) .OR.
     $          (LABL .EQ. 68) .OR. (LABL .EQ. 93)) THEN
       RW = 4
       ELSE IF ((LABL .EQ. 12) .OR. (LABL .EQ. 51) .OR.
     $          (LABL .EQ. 62) .OR. (LABL .EQ. 81) .OR.
     $          (LABL .EQ. 82)) THEN
       RW = 5
       ELSE IF (LABL .EQ. 54) THEN
       RW = 6
       ELSE IF ((LABL .EQ. 13) .OR. (LABL .EQ. 15) .OR.
     $          (LABL .EQ. 17)) THEN
       RW = 8
       ELSE IF ((LABL .EQ. 11) .OR. (LABL .EQ. 18)) THEN
       RW = 9
       ELSE IF ((LABL .EQ. 1) .OR. (LABL .EQ. 35) .OR.
     $          (LABL .EQ. 42) .OR. (LABL .EQ. 91) .OR.
```

```
$          (LABL .EQ. 92)) THEN
 RW = 10
 ELSE IF ((LABL .EQ. 5) .OR. (LABL .EQ. 96) .OR.
$          (LABL .EQ. 97) .OR. (LABL .EQ. 98)) THEN
 RW = 11
 ELSE IF ((LABL .EQ. 21) .OR. (LABL .EQ. 24) .OR.
$          (LABL .EQ. 26) .OR. (LABL .EQ. 27)) THEN
 RW = 12
 ELSE IF (LABL .EQ. 95) THEN
 RW = 13
 ELSE IF ((LABL .EQ. 41) .OR. (LABL .EQ. 44) .OR.
$          (LABL .EQ. 45) .OR. (LABL .EQ. 52) .OR.
$          (LABL .EQ. 63)) THEN
 RW = 14
 ELSE IF ((LABL .EQ. 43) .OR. (LABL .EQ. 55) .OR.
$          (LABL .EQ. 57) .OR. (LABL .EQ. 76) .OR.
$          (LABL .EQ. 77) .OR. (LABL .EQ. 94)) THEN
 RW = 15
 ELSE IF ((LABL .EQ. 29) .OR. (LABL .EQ. 31) .OR.
$          (LABL .EQ. 36) .OR. (LABL .EQ. 72)) THEN
 RW = 16
 ELSE IF ((LABL .EQ. 33) .OR. (LABL .EQ. 39)) THEN
 RW = 17
 ELSE IF (LABL .EQ. 88) THEN
 RW = 18
 ELSE
 RW = 7
 ENDIF

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE MATRIXADD (ARRAY,MOS,PER,NUM,A,B,C,D,E,F,G,H,I,J,K,L,
     $                      M,N,O,P,Q,R)
*************************************************************************
*                                                                       *
* SUBROUTINE MATRIXADD                                                  *
* This subroutine adds the input time period qtys (V1...V18) to         *
* to index time periods 1...18 of the correct row in MATRIX             *
*                                                                       *
*************************************************************************

      INTEGER MOS, PER
      INTEGER ARRAY
      DIMENSION ARRAY (MOS, PER)
      INTEGER NUM,A,B,C,D,E,F,G,H,I,J,K,L,M,N,O,P,Q,R

* modify the mos row
      ARRAY (NUM, 1) = ARRAY (NUM, 1) + A
      ARRAY (NUM, 2) = ARRAY (NUM, 2) + B
      ARRAY (NUM, 3) = ARRAY (NUM, 3) + C
      ARRAY (NUM, 4) = ARRAY (NUM, 4) + D
      ARRAY (NUM, 5) = ARRAY (NUM, 5) + E
      ARRAY (NUM, 6) = ARRAY (NUM, 6) + F
      ARRAY (NUM, 7) = ARRAY (NUM, 7) + G
      ARRAY (NUM, 8) = ARRAY (NUM, 8) + H
      ARRAY (NUM, 9) = ARRAY (NUM, 9) + I
      ARRAY (NUM, 10) = ARRAY (NUM, 10) + J
      ARRAY (NUM, 11) = ARRAY (NUM, 11) + K
      ARRAY (NUM, 12) = ARRAY (NUM, 12) + L
      ARRAY (NUM, 13) = ARRAY (NUM, 13) + M
      ARRAY (NUM, 14) = ARRAY (NUM, 14) + N
      ARRAY (NUM, 15) = ARRAY (NUM, 15) + O
      ARRAY (NUM, 16) = ARRAY (NUM, 16) + P
      ARRAY (NUM, 17) = ARRAY (NUM, 17) + Q
      ARRAY (NUM, 18) = ARRAY (NUM, 18) + R

* modify the summed totals, the last row, if row != 1
      IF (NUM .NE. 1) THEN
      ARRAY (MOS, 1) = ARRAY (MOS, 1) + A
      ARRAY (MOS, 2) = ARRAY (MOS, 2) + B
      ARRAY (MOS, 3) = ARRAY (MOS, 3) + C
      ARRAY (MOS, 4) = ARRAY (MOS, 4) + D
      ARRAY (MOS, 5) = ARRAY (MOS, 5) + E
      ARRAY (MOS, 6) = ARRAY (MOS, 6) + F
      ARRAY (MOS, 7) = ARRAY (MOS, 7) + G
      ARRAY (MOS, 8) = ARRAY (MOS, 8) + H
      ARRAY (MOS, 9) = ARRAY (MOS, 9) + I
      ARRAY (MOS, 10) = ARRAY (MOS, 10) + J
      ARRAY (MOS, 11) = ARRAY (MOS, 11) + K
      ARRAY (MOS, 12) = ARRAY (MOS, 12) + L
      ARRAY (MOS, 13) = ARRAY (MOS, 13) + M
      ARRAY (MOS, 14) = ARRAY (MOS, 14) + N
      ARRAY (MOS, 15) = ARRAY (MOS, 15) + O
```

```
      ARRAY (MOS, 16) = ARRAY (MOS, 16) + P
      ARRAY (MOS, 17) = ARRAY (MOS, 17) + Q
      ARRAY (MOS, 18) = ARRAY (MOS, 18) + R
      ENDIF

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE PRINTMATRIX (ARRAY, MOS, PER)
*************************************************************************
*                                                                       *
* SUBROUTINE PRINTMATRIX                                                *
* This subroutine prints the entire matrix according to time periods.   *
*                                                                       *
*************************************************************************

      INTEGER MOS, PER
      INTEGER ARRAY
      DIMENSION ARRAY (MOS, PER)
      INTEGER CNT1, CNT2
      CHARACTER HEAD1*30, HEAD2*31, CATBRG*5


* Print Header info.
      HEAD1 = ' TP   CATBRGD   S   TYPE   STR'
      HEAD2 = '---- --------- --- ------ -----'
*             BXXBBBBXXXXXBBBBBBBBBXXXBBXXXXXX
      WRITE(2,500) HEAD1, HEAD2

* The header format
 500  FORMAT(1X,A30,/1X,A31)

* Go thru matrix and print qty if qty != 0
      DO 560, CNT1 = 1, PER
       DO 550, CNT2 = 2, MOS-1
          IF (ARRAY (CNT2, CNT1) .NE. 0) THEN
            IF (CNT2 .EQ. 2) THEN
            CATBRG = 'EAD14'
            ELSE IF (CNT2 .EQ. 3) THEN
            CATBRG = 'EAR14'
            ELSE IF (CNT2 .EQ. 4) THEN
            CATBRG = 'EAV14'
            ELSE IF (CNT2 .EQ. 5) THEN
            CATBRG = 'ECE14'
            ELSE IF (CNT2 .EQ. 6) THEN
            CATBRG = 'ECM14'
            ELSE IF (CNT2 .EQ. 7) THEN
            CATBRG = 'ECS14'
            ELSE IF (CNT2 .EQ. 8) THEN
            CATBRG = 'EFA14'
            ELSE IF (CNT2 .EQ. 9) THEN
            CATBRG = 'EIN14'
            ELSE IF (CNT2 .EQ. 10) THEN
            CATBRG = 'EMC14'
            ELSE IF (CNT2 .EQ. 11) THEN
            CATBRG = 'EMI14'
            ELSE IF (CNT2 .EQ. 12) THEN
            CATBRG = 'EMM14'
            ELSE IF (CNT2 .EQ. 13) THEN
            CATBRG = 'EMP14'
```

```
            ELSE IF (CNT2 .EQ. 14) THEN
            CATBRG = 'EOD14'
            ELSE IF (CNT2 .EQ. 15) THEN
            CATBRG = 'EQM14'
            ELSE IF (CNT2 .EQ. 16) THEN
            CATBRG = 'ESC14'
            ELSE IF (CNT2 .EQ. 17) THEN
            CATBRG = 'ESM14'
            ELSE
            CATBRG = 'ETC14'
            ENDIF

* Determine appropriate write format type; if cntl <= 9 you must add
* a 0 to the front
            IF (CNT1 .LE. 9) THEN
            WRITE(2,520) CNT1, CATBRG, ARRAY (CNT2, CNT1)
            ELSE
            WRITE(2,530) CNT1, CATBRG, ARRAY (CNT2, CNT1)
            ENDIF

* The write format
 520  FORMAT (2X,'0',I1,4X,A5,9X,'TRN',2X,I6)
 530  FORMAT (2X,I2,4X,A5,9X,'TRN',2X,I6)
         ENDIF

 550        CONTINUE
 560     CONTINUE

* Exit subroutine
      RETURN
      END
```

4.7 REQUIREMENT/ASSET GENERATOR (REQAST GEN) MODULE

4.7.1 GENERAL

This module merges the converted input files into a single data base, assigns branch priorities and a unique code number, and then sorts the file by this code number. The entire program is written in FORTRAN 77. The module utilizes two look-up tables, the WARPAM Branch Priority table and the Theater/ Replacement Type table for branch priorities and code number development, respectively. This output file, titled REQAST.TBL is the basis of all subsequent WARPAM modeling and can be viewed by using the REQAST DBASE program. The processing flow for REQAST GEN module is shown at figure 7, below.

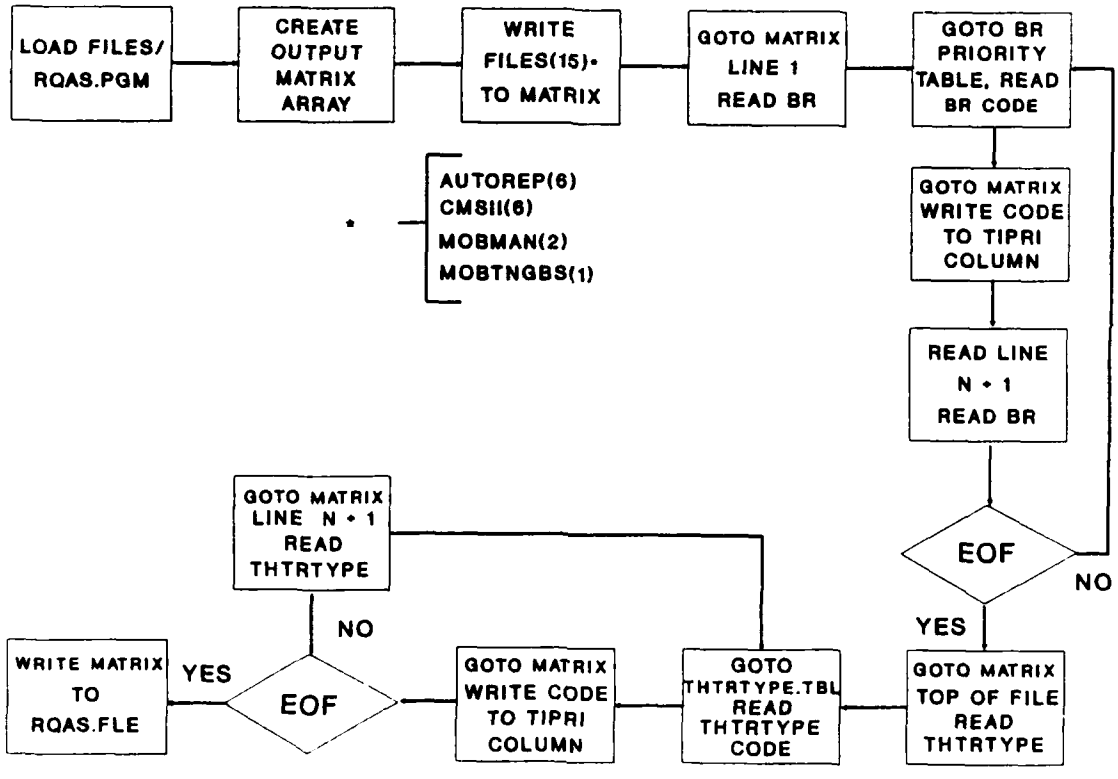


FIGURE 7: REQUIREMENTS/ASSETS GENERATOR PROCESSING

4.7.2 REQAST GENERATOR FORTRAN PROGRAMS

```
************************************************************************
*                                                                      *
* PROGRAMMER : JOHN A. TENSHAW                                         *
* COMPANY    : SAIC                                                    *
* ADDRESS    : 1710 GOODRIDGE DR. MS-T-1-7-2, MCLEAN, VA. 22102        *
* PHONE      : 703-734-5584                                            *
* DATE       : 5 MAY 90                                                *
*                                                                      *
************************************************************************


      INTEGER MAXNUM, MAXTHR, MAXPTY
      PARAMETER (MAXNUM = 37000, MAXTHR = 30, MAXPTY = 100)
      CHARACTER CODE(MAXTHR)*4, ABBR(MAXTHR)*3, OUTSTR(MAXNUM)*24
      CHARACTER PRIOR(MAXPTY)*5
      INTEGER COUNT, NUM, LINE, STAT1
      CHARACTER IN11*1,IN12*1,IN21*2,IN22*2,IN23*2,IN3*3,IN4*4,IN5*5
      CHARACTER IN61*6, IN62*6, IN63*6
      LOGICAL THERE

      WRITE (6, 5)
 5    FORMAT(/////////////////20X,'**********************************',
     $/20X,'**********************************',//24X,
     $'WARPAM REQ/ASSETS GENERATOR',//20X,
     $'**********************************',/20X,
     $'**********************************',///////20X
     $'THE FOLLOWING FILES ARE NEEDED TO RUN :',/30X,
     $'THTRTYPE.TBL',/30X,'WARPRI.TBL',/30X,'MAX.TBL',/30X,
     $'MOBTNGBS.OUT',/30X,'CSMII.OUT',/30X,'AUTOREP.OUT',/30X,
     $'MOBMREQ.OUT',/30X,'MOBMAST.OUT',//////////)

      PAUSE

      WRITE (6, 6)
 6    FORMAT (/////////////////////////////////////////////////
     $10X,'PLEASE WAIT ----- REQ/ASSETS GENERATOR RUNNING')

* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/THTRTYPE.TBL',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - THTRTYPE.TBL DOES NOT EXIST'
      GO TO 500
      END IF

* Open the THTRTYPE.TBL file and read the info into CODE and ABBR
      OPEN(UNIT = 1,FILE = '/home/warpam/iofiles/THTRTYPE.TBL',
     $     STATUS = 'OLD', IOSTAT = STAT1)

* Initialize count = 1
      COUNT = 1
```

```
* Read input line and check for errors
 20   READ(1, '(A4,1X,A3)', END = 25) IN4, IN3
      IF (COUNT .LE. MAXTHR) THEN
      CODE (COUNT) = IN4
      ABBR (COUNT) = IN3
      COUNT = COUNT + 1
      GO TO 20
      ELSE IF (STAT1 .LT. 0) THEN
      GO TO 25
      ELSE
      PRINT *, ' ERROR - TOO MANY INPUT LINES IN THTRTYPE.TBL'
      PRINT *, '         MODIFY THE MAXTHR VARIABLE IN REQAST.F'
      PRINT *, '         ACCORDINGLY.'
      GO TO 500
      END IF

* Close THTRTYPE.TBL file
 25   CLOSE(1, STATUS = 'KEEP')



* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/WARPRI.TBL',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - WARPRI.TBL DOES NOT EXIST'
      GO TO 500
      END IF

* Open the WARPRI.TBL file and read the info into PRIOR
      OPEN(UNIT = 1,FILE = '/home/warpam/iofiles/WARPRI.TBL',
     $     STATUS = 'OLD', IOSTAT = STAT1)

* Initialize count = 1
      COUNT = 1

* Read input line and check for errors
 30   READ(1, '(I2,1X,A5)', END = 35) NUM, IN5
      IF (COUNT .LE. MAXPTY) THEN
      PRIOR (COUNT) = IN5
      COUNT = COUNT + 1
      GO TO 30
      ELSE IF (STAT1 .LT. 0) THEN
      GO TO 35
      ELSE
      PRINT *, ' ERROR - TOO MANY INPUT LINES IN WARPRI.TBL'
      PRINT *, '         MODIFY THE MAXPTY VARIABLE IN REQAST.F'
      PRINT *, '         ACCORDINGLY.'
      GO TO 500
      END IF

* Close WARPRI.TBL file
 35   CLOSE(1, STATUS = 'KEEP')
```

```
* Initialize count = 1 + line = 1
      COUNT = 1
      LINE = 1

* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/MAX.TBL',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - MAX.TBL DOES NOT EXIST'
      GO TO 500
      END IF

* Open the MAX.TBL file and read the info into OUTSTR
      OPEN(UNIT = 1, FILE = '/home/warpam/iofiles/MAX.TBL',
     $     STATUS = 'OLD', IOSTAT = STAT1)


* Skip first three rows of input because it is just header info.
 39   READ(1, '(A1)', END = 55) IN11
      IF (LINE .LT. 3) THEN
      LINE = LINE + 1
      GO TO 39
      END IF

* Read input line and check for errors
 40   READ(1, 50, END = 55) IN21, IN5, IN3, IN61

* Insert input data into OUTSTR and modify COUNT
      OUTSTR (COUNT)(1:5) = IN5
      OUTSTR (COUNT)(6:6) = 'X'
      OUTSTR (COUNT)(7:9) = IN3
      OUTSTR (COUNT)(10:11) = IN21
      OUTSTR (COUNT)(19:24) = IN61
      COUNT = COUNT + 1
      GO TO 40

 50   FORMAT(1X,A2,3X,A5,4X,A3,4X,A6)

* Close MAX.TBL file
 55    CLOSE(1, STATUS = 'KEEP')



* Initialize line = 1
      LINE = 1

* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/MOBTNGBS.OUT',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - MOBTNGBS.OUT DOES NOT EXIST'
      GO TO 500
      END IF
```

```
* Open the MOBTNGBS.OUT file and read the info into OUTSTR
      OPEN(UNIT = 1,FILE = '/home/warpam/iofiles/MOBTNGBS.OUT',
     $     STATUS = 'OLD', IOSTAT = STAT1)

* Skip first two rows of input because it is just header info.
 59   READ(1, '(A1)', END = 75) IN11
      IF (LINE .LT. 2) THEN
      LINE = LINE + 1
      GO TO 59
      END IF

* Read input line and check for errors
 60   READ(1, 70, END = 75) IN21, IN5, IN3, IN61

* Insert input data into OUTSTR and modify COUNT
      OUTSTR (COUNT)(1:5) = IN5
      OUTSTR (COUNT)(6:6) = 'X'
      OUTSTR (COUNT)(7:9) = IN3
      OUTSTR (COUNT)(10:11) = IN21
      OUTSTR (COUNT)(19:24) = IN61
      COUNT = COUNT + 1
      GO TO 60

 70   FORMAT(2X,A2,4X,A5,9X,A3,2X,A6)

* Close MOBTNGBS.OUT file
 75   CLOSE(1, STATUS = 'KEEP')



* Initialize line = 1
      LINE = 1

* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/CSMII.OUT',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - CSMII.OUT DOES NOT EXIST'
      GO TO 500
      END IF

* Open the CSMII.OUT file and read the info into OUTSTR
      OPEN(UNIT = 1, FILE = '/home/warpam/iofiles/CSMII.OUT',
     $     STATUS = 'OLD', IOSTAT = STAT1)

* Skip first three rows of input because it is just header info.
 79   READ(1, '(A1)', END = 95) IN11
      IF (LINE .LT. 3) THEN
      LINE = LINE + 1
      GO TO 79
      END IF
```

```
* Read input line and check for errors
 80   READ(1, 90, END = 95) IN21, IN5, IN11, IN61, IN62, IN63

* Insert input data into OUTSTR and modify COUNT
      OUTSTR (COUNT)(1:5) = IN5
      OUTSTR (COUNT)(6:6) = IN11
      OUTSTR (COUNT)(7:9) = 'CST'
      OUTSTR (COUNT)(10:11) = IN21
      OUTSTR (COUNT)(19:24) = IN63
      COUNT = COUNT + 1
      OUTSTR (COUNT)(1:5) = IN5
      OUTSTR (COUNT)(6:6) = IN11
      OUTSTR (COUNT)(7:9) = 'CSB'
      OUTSTR (COUNT)(10:11) = IN21
      OUTSTR (COUNT)(19:24) = IN61
      COUNT = COUNT + 1
      GO TO 80

 90   FORMAT(2X,A2,4X,A5,4X,A1,3X,A6,4X,A6,4X,A6)

* Close CSMII.OUT file
 95   CLOSE(1, STATUS = 'KEEP')



* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/AUTOREP.OUT',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - AUTOREP.OUT DOES NOT EXIST'
      GO TO 500
      END IF

* Open the AUTOREP.OUT file and read the info into OUTSTR
      OPEN(UNIT = 1,FILE = '/home/warpam/iofiles/AUTOREP.OUT',
     $     STATUS = 'OLD', IOSTAT = STAT1)

* Read input line and check for errors
 100   READ(1, 110, END = 115) IN21, IN5, IN11, IN3, IN61

* Insert input data into OUTSTR and modify COUNT
      IF (COUNT .LE. MAXNUM) THEN
      OUTSTR (COUNT)(1:5) = IN5
      OUTSTR (COUNT)(6:6) = IN11
      OUTSTR (COUNT)(7:9) = IN3
      OUTSTR (COUNT)(10:11) = IN21
      OUTSTR (COUNT)(19:24) = IN61
      COUNT = COUNT + 1
      GO TO 100
      ELSE
      PRINT *, ' ERROR - OUTSTR LIMIT EXCEEDED WHILE READING '
      PRINT *, '         AUTOREP.OUT.  INCREASE MAXNUM LIMIT'
      PRINT *, '         TO ARRAY OUTSTR ACCORDINGLY.'
```

```
      GO TO 500
      END IF

 110   FORMAT(2X,A2,3X,A5,3X,A1,3X,A3,3X,A6)

* Close AUTOREP.OUT file
 115   CLOSE(1, STATUS = 'KEEP')

* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/MOBMREQ.OUT',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - MOBMREQ.OUT DOES NOT EXIST'
      GO TO 500
      END IF

* Open the MOBMAN.OUT file and read the info into OUTSTR
      OPEN(UNIT = 1,FILE = '/home/warpam/iofiles/MOBMREQ.OUT',
     $     STATUS = 'OLD', IOSTAT = STAT1)

* Read input line and check for errors
 130   READ(1, 140, END = 145) IN21,IN11,IN22,IN23,IN12,IN3,IN61

* Insert input data into OUTSTR and modify COUNT
      IF (COUNT .LE. MAXNUM) THEN
      OUTSTR (COUNT)(1:1) = IN11
      OUTSTR (COUNT)(2:3) = IN22
      OUTSTR (COUNT)(4:5) = IN23

      IF (IN12 .EQ. 'M') THEN
        OUTSTR (COUNT)(6:6) = 'M'
      ELSE IF (IN22 .EQ. 'IN' .OR.
     $           IN22 .EQ. 'AR' .OR. IN22 .EQ. 'FA') THEN
        OUTSTR (COUNT)(6:6) = 'M'
      ELSE
        OUTSTR (COUNT)(6:6) = 'X'
      END IF

      OUTSTR (COUNT)(7:9) = IN3
      OUTSTR (COUNT)(10:11) = IN21
      OUTSTR (COUNT)(19:24) = IN61
      COUNT = COUNT + 1
      GO TO 130
      ELSE
      PRINT *, ' ERROR - OUTSTR LIMIT EXCEEDED WHILE READING '
      PRINT *, '         MOBMREQ.OUT.  INCREASE MAXNUM LIMIT'
      PRINT *, '         TO ARRAY OUTSTR ACCORDINGLY.'
      GO TO 500
      END IF

 140  FORMAT(2X,A2,2X,A1,2X,A2,2X,A2,2X,A1,2X,A3,2X,A6)

* Close MOBMREQ.OUT file
```

```
 145   CLOSE(1, STATUS = 'KEEP')

* If input file does not exist, stop
      INQUIRE (FILE = '/home/warpam/iofiles/MOBMAST.OUT',EXIST = THERE)
      IF (.NOT. THERE) THEN
      PRINT *, ' ERROR - MOBMAST.OUT DOES NOT EXIST'
      GO TO 500
      END IF

* Open the MOBMAN.OUT file and read the info into OUTSTR
      OPEN(UNIT = 1,FILE = '/home/home/iofiles/MOBMAST.OUT',
     $     STATUS = 'OLD', IOSTAT = STAT1)

* Read input line and check for errors
 150   READ(1, 160, END = 165) IN21,IN11,IN22,IN23,IN12,IN3,IN61

* Insert input data into OUTSTR and modify COUNT
      IF (COUNT .LE. MAXNUM) THEN
      OUTSTR (COUNT)(1:1) = IN11
      OUTSTR (COUNT)(2:3) = IN22
      OUTSTR (COUNT)(4:5) = IN23

      IF (IN12 .EQ. 'M') THEN
        OUTSTR (COUNT)(6:6) = 'M'
      ELSE IF (IN22 .EQ. 'IN' .OR.
     $           IN22 .EQ. 'AR' .OR. IN22 .EQ. 'FA') THEN
        OUTSTR (COUNT)(6:6) = 'M'
      ELSE
        OUTSTR (COUNT)(6:6) = 'X'
      END IF

      OUTSTR (COUNT)(7:9) = IN3
      OUTSTR (COUNT)(10:11) = IN21
      OUTSTR (COUNT)(19:24) = IN61
      COUNT = COUNT + 1
      GO TO 150
      ELSE
      PRINT *, ' ERROR - OUTSTR LIMIT EXCEEDED WHILE READING '
      PRINT *, '         MOBMREQ.OUT.  INCREASE MAXNUM LIMIT'
      PRINT *, '         TO ARRAY OUTSTR ACCORDINGLY.'
      GO TO 500
      END IF

 160  FORMAT(2X,A2,2X,A1,2X,A2,2X,A2,2X,A1,2X,A3,2X,A6)

 165  COUNT = COUNT - 1
      CALL MODIFYARRAY (OUTSTR,MAXNUM,CODE,ABBR,MAXTHR,PRIOR,MAXPTY,
     $                  COUNT)
      CALL SORTARRAY (OUTSTR, MAXNUM, COUNT)
      CALL PRINTARRAY (OUTSTR, MAXNUM, COUNT)

      WRITE (6, 250)
```

```
 250  FORMAT (//////10X,'REQ/ASSETS GENERATOR DONE')

* Close file and exit program
 500  CLOSE(1, STATUS = 'KEEP')
      END
```

```
****************** SUBROUTINES - IN ALPHABETICAL ORDER **************



      SUBROUTINE MODIFYARRAY (OS, MN, CD, AB, MT, PR, MP, CT)
*************************************************************************
*                                                                       *
* SUBROUTINE MODIFYARRAY                                                *
* This subroutine goes thru the OUTSTR array and fills in the           *
* elements 12-18 with the correct priorities and codes.                 *
*                                                                       *
*************************************************************************

      INTEGER CT, MT, MP, MN
      CHARACTER CD(MT)*4, AB(MT)*3, OS(MN)*24
      CHARACTER PR(MP)*5
      INTEGER CTR1, CTR2
      LOGICAL MORE


      DO 690, CTR1 = 1, CT

* Find the correct replacement type and modify OS accordingly
      MORE = .TRUE.
      CTR2 = 1
 600  IF (CTR2 .LE. MT .AND. MORE) THEN
      IF (OS(CTR1)(7:9) .EQ. AB(CTR2)) THEN
        OS(CTR1)(15:18) = CD (CTR2)
        MORE = .FALSE.
      ELSE
        CTR2 = CTR2 + 1
        GO TO 600
      END IF
      END IF

* Find the correct priority num. and modify OS accordingly
      MORE = .TRUE.
      CTR2 = 1
 610  IF (CTR2 .LE. MP .AND. MORE) THEN
      IF (OS(CTR1)(1:5) .EQ. PR(CTR2)) THEN
        IF (CTR2 .GT. 99) THEN
          OS(CTR1)(12:12) = CHAR (CTR2 / 100 + 48)
          OS(CTR1)(13:13) = CHAR ((CTR2 / 100) / 10 + 48)
          OS(CTR1)(14:14) = CHAR (MOD (CTR2, 10) + 48)
        ELSE
          OS(CTR1)(12:12) = '0'
          OS(CTR1)(13:13) = CHAR (CTR2 / 10 + 48)
          OS(CTR1)(14:14) = CHAR (MOD (CTR2, 10) + 48)
        END IF
        MORE = .FALSE.
```

```
      ELSE
        CTR2 = CTR2 + 1
        GO TO 610
      END IF
      END IF

 690  CONTINUE

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE PRINTARRAY (OS, MN, CT)
************************************************************************
*                                                                      *
* SUBROUTINE PRINTARRAY                                                *
* This subroutine prints OS to an output file.                         *
*                                                                      *
************************************************************************

      INTEGER MN, CT
      CHARACTER OS(MN)*24
      INTEGER STAT2, CNT1
      CHARACTER HEAD0*40, HEAD1*40, HEAD2*41
      LOGICAL THERE

*If output file exists, delete it
      INQUIRE (FILE = '/home/warpam/iofiles/REQAST.OUT',EXIST = THERE)
      IF (THERE) THEN
      OPEN(UNIT = 2,FILE = '/home/        iles/REQAST.OUT',
     $       STATUS = 'OLD', IOSTAT = STAT2)
      CLOSE (2, STATUS = 'DELETE')
      END IF

* Open the REQAST.OUT file and read the OUTSTR info. into it
      OPEN(UNIT = 2,FILE = '/home/dnna/iofiles/REQAST.OUT',
     $     STATUS = 'NEW', IOSTAT = STAT2)

* Print Header info.
      HEAD0 = ' CAT/BR       REQ/   TIME PER/   REQ''T/'
      HEAD1 = ' GRADE    S   TYPE   PRIORITY    ASSETS'
      HEAD2 = '-------- --- ------ ----------- --------'
*              BXXXXXBBBBXBBBBXXXBBBXXXXXXXXXBBBXXXXXX
      WRITE(2,700) HEAD0, HEAD1, HEAD2

* The header format
 700  FORMAT(1X,A39/1X,A39,/1X,A40)

* Go thru matrix and print info to outfile
      DO 750, CNT1 = 1, CT
      WRITE(2,770) OS(CNT1)(1:5), OS(CNT1)(6:6), OS(CNT1)(7:9),
     $               OS(CNT1)(10:18), OS(CNT1)(19:24)
 750  CONTINUE

 770  FORMAT(2X,A5,4X,A1,4X,A3,3X,A9,3X,A6)

* Close REQAST.OUT file
      CLOSE(2, STATUS = 'KEEP')

* Exit subroutine
      RETURN
      END
```

```
      SUBROUTINE SORTARRAY (OS, MN, CT)
*************************************************************************
*                                                                       *
* SUBROUTINE SORTARRAY                                                  *
* This subroutine uses a shell sort to sort OUTSTR by                   *
* time per/priority (elem 10-18) in ascending order.                    *
*                                                                       *
*************************************************************************

      INTEGER MN, CT
      CHARACTER OS(MN)*24, TEMP*24
      INTEGER CTR, NDELTA
      LOGICAL INORDR

      NDELTA = CT
 800  IF (NDELTA .GT. 1) THEN
      NDELTA = NDELTA/2
 810    INORDR = .TRUE.
      DO 820, CTR = 1, CT - NDELTA
        IF (OS(CTR)(10:18) .GT. OS(CTR + NDELTA)(10:18)) THEN
          TEMP = OS(CTR)
          OS(CTR) = OS(CTR + NDELTA)
          OS(CTR + NDELTA) = TEMP
          INORDR = .FALSE.
        END IF
 820      CONTINUE
      IF (.NOT. INORDR) GO TO 810
      GO TO 800
      END IF

* Exit subroutine
      RETURN
      END
```

SECTION 5
RECLASSIFICATION MODEL

5.1 GENERAL

The Reclassification Model is designed to return a percentage of the casualties (requirements) sustained within a theater during a time period back to duty in a number of new branches over several later time periods to simulate the effects of hospitalization and reclassification actions. The model allows the user through the control of various input variables and user created tables to simulate current personnel policy or conduct "What If" analysis.

5.2 INITIATION

The Reclassification Model is initiated through user input from a Sun window which activates the Reclassification FORTRAN program. To proceed, the user must type "go" on the response line to advance to the first input variable. This input line ONLY ACCEPTS the word "go" in small case letters. Files produced from previous runs of the preprocessor should be stored in a different sub-directory or under a different file name (as with the date run) prior to running the preprocessor modules. Any file of the same name in the IOFILE sub-directory on the Sun workstation will be overwritten by the new output file.

5.3 INPUT FILES

The files required for each routine and sub-routine are listed at the beginning of the programs.

5.4 INPUT VARIABLES

The user is prompted by the input screen to input the desired value of the following variables on a response line: (input variables from previous runs are shown on the input screen prior to the first response)

Requirement File: Which of the various requirement files does the user desire to use for this run of the model. The available requirement files are listed at the input line. The Reclassification Model will not accept the MAX requirement file as an input and will run the DEG file in its place.

Time Periods: A time period is 10 days. The model will only run for the time periods chosen. The user must input both the start time period and the end time period for the run. If start time period is "1" and end time period is "10" the model will run time periods "1-10" inclusive. Due to the configuration of current input data (MOBMAN has all assets in time period one), the model MUST BE STARTED WITH TIME PERIOD ONE.

Branch: Branch represents the specialties/MOS and grade combinations which have been grouped together in the preprocessor. These branches are then prioritized in the Branch Look-Up Table and given a priority number. The user should consult the current table in the preprocessor to determine the priority code for specific branches. The model can be run with from one or up to the maximum number of branches which were created in the preprocessor. The initial version of WARPAM has 67 branch/grade combinations.

Return-to-Duty Rate: This is the percentage of casualties which the user desires to return to duty within the theater. The model will accept either a rate (decimal) or percentage (whole number) ranging from .1% (.001) to 99.99% (.9999). Based on 1989 CAA estimates the recommended rate for current policy is 20%.

5.5 PROCESSING

Casualties (requirements) are redesignated as new branches specified in the officer and enlisted reclassification tables. This is accomplished by reading the requirements line from the REQAST.TBL for the specified requirement into the model. Then through a series of calculations the requirements are transformed into a reduced number of assets in new branches based on the data found in the reclassification look-up tables. The current model then distributes these reclassified personnel over six time periods according to percentages found in the reclassification delay table. Following the reclassification processing the model appends these results to the REQAST.TBL, sorts the file, and relabels the new file as MODRQAST.TBL which is used in subsequent models. This processing flow is depicted in figure 8.

5.6 OUTPUT REPORTS

The modified requirements/assets file (MODRQAST.TBL) is produced from each run of the reclassification model. This file is automatically replicated as a DOS file which the user is allowed to view using DBASE III. However, any changes made by the user will not effect the subsequent models as these changes are not recorded on the UNIX addition of the file which is used by the CRC/RPLCO model. The intent of reviewing the MODRQAST.TBL is detect any catastrophic errors in the file prior to using it in other models. To make changes in the UNIX version of the file, the programmer must use an editor program directly with this file version.

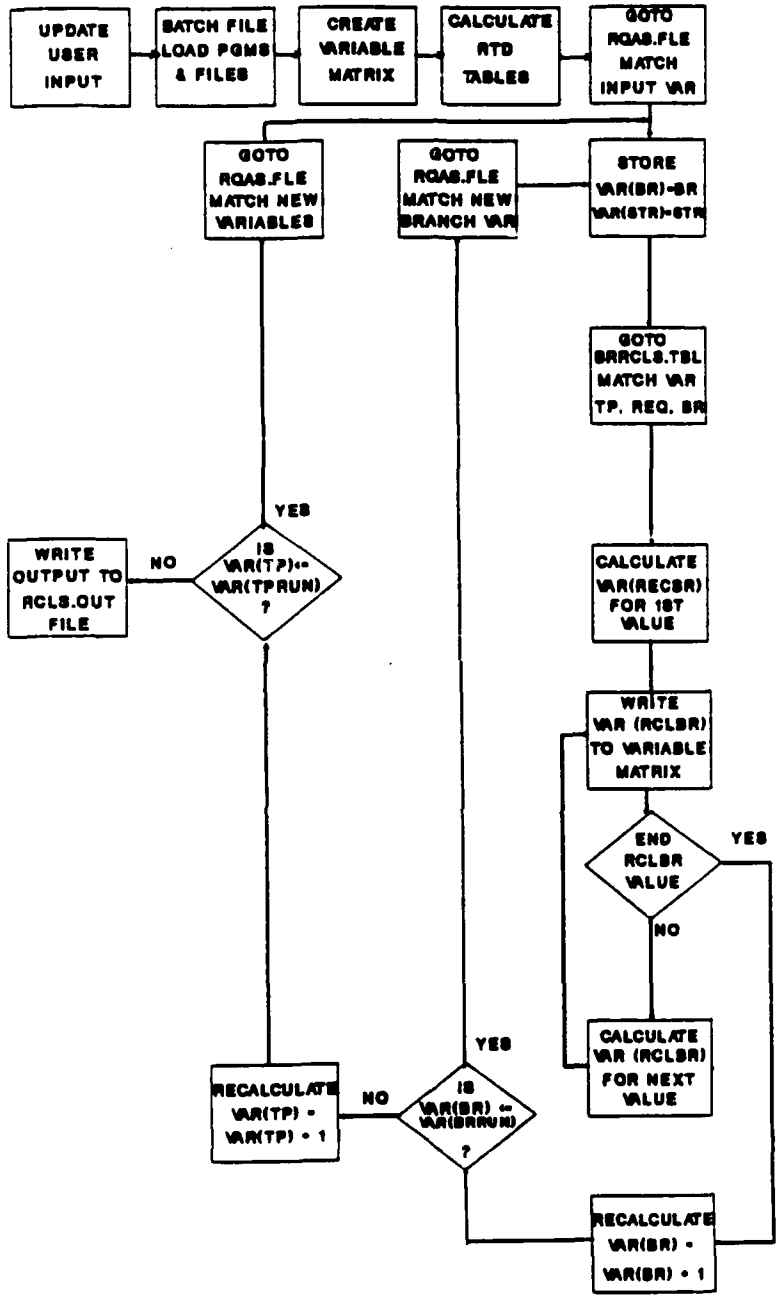


FIGURE 8: RECLASSIFACTION MODEL PROCESSING

5.7 RECLAS MODEL FORTRAN PROGRAMS

```
C*******************************************************************************
C
C  Program Name:  MODRECL                          Date:  05-21-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Modifies the Requirements/Assets file by appending
C                 TRD [Theater Return to Duties] to the file output.
C
C  Input:         REQAST.OUT
C                 ORCLSPER.TBL
C                 ERCLSPER.TBL
C                 WARPRI.TBL
C                 RCLSDLY.TBL
C
C  Output:        MODRQAST.OUT
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:          Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/31/90  Modified directory changes.       BAW
C
C*******************************************************************************

      PROGRAM MODRECL

C  Global Variables

      DIMENSION ORCL(18,18),ORCLBR(18),ERCL(17,17),ERCLBR(17),
     &WPRNUMB(67),WPRCODE(67),RDLAY(18,6),STOR(5000,4),
     &STORST(5000),OUTSTR(40000)
      CHARACTER*1 RQCHR(40),UNPT(55),CAT,SEX,XTP1,TABL
      CHARACTER*2 ORCLBR,ERCLBR,WPRNUMB,BR,GRD,TP,NEWBR,NBRN,CHNTP
      CHARACTER*3 RDREQ,SREQ,TYPE,VREQ,VBRR,CBG1,NWBRCH
      CHARACTER*4 REQASET
      CHARACTER*5 WPRCODE,NEWCBG,CTPNB
      CHARACTER*6 VSTOR
      CHARACTER*8 FLNAM1
      CHARACTER*9 TPBRQA,STOR
      CHARACTER*11 FLNAM2
      CHARACTER*21 DIRNAM
      CHARACTER*24 fdate,OUTSTR
      CHARACTER*32 FNAME
      CHARACTER*40 RACHR
      CHARACTER*55 USRPT
```

```
      LOGICAL THERE
      REAL RDPCNT,RETDP,ORCL,ERCL,RDLAY

      INTEGER ICHK,USRNPUT,STARTP,ENDTP,STARTBR,ENDBR,NEWSTR,
     &VSTRNG,VTP,CURNTP,NCOLUMN,ADDSTR,SUMRET,TEMPSTR,CURBR,
     &LOOP,COUNT,MAXCOUNT,IFLG,STORST,VBRNH,CNT1,KL

      COMMON/PASRTD/RETDP
      COMMON/OCLST/ORCL,ORCLBR
      COMMON/ECLST/ERCL,ERCLBR
      COMMON/WARPR/WPRNUMB,WPRCODE
      COMMON/RCDLY/RDLAY
      COMMON/CVRTT/RQCHR,VTP,VBRNH,VSTRNG
      COMMON/JTSRT/OUTSTR,CNT1

      EQUIVALENCE (RQCHR(1),RACHR)
      EQUIVALENCE (UNPT(1),USRPT)

C  Local Variables

      ICHK = 0
      COUNT = 0
      MAXCOUNT = 0
      IFLG = 0
      VTP = 0
      VBRNH = 0
      VSTRNG = 0
      SEX = 'X'
      TYPE = 'TRD'
      REQASET = '0100'

      WRITE(6,90)
 90   FORMAT(/////20X,'**********************************',
     &/20X,'**********************************',//20X,
     &'WARPAM RECLAS MODIFICATION MODULE',//20X,
     &'**********************************',/20X,
     &'**********************************',///////20X,
     &'THE FOLLOWING FILES ARE NEEDED:',/30X,
     &'REQAST.OUT',/30X,'RCLSDLY.TBL',/30X,'ORCLSPER.TBL',
     &/30X,'ERCLSPER.TBL',/30X,'WARPRI.TBL',//////////)

      PAUSE

      WRITE(6,91)
 91   FORMAT(////////////////////////////////////////)


C  Checks to see if input files exists.  If input files do not exist
C  the write error message and terminate program.

      INQUIRE(FILE='/home/warpam/iofiles/REQAST.OUT',EXIST=THERE)
      IF (.NOT.THERE)THEN
```

```
         WRITE(6,*)'ERROR - REQAST.OUT does not exist.'
         GOTO 310
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/RCLSDLY.TBL',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)'ERROR - RCLSDLY.TBL does not exist.'
         GOTO 310
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/ORCLSPER.TBL',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)'ERROR - ORCLSPER.TBL does not exist.'
         GOTO 310
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/ERCLSPER.TBL',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)'ERROR - ERCLSPER.TBL does not exist.'
         GOTO 310
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/WARPRI.TBL',EXIST=THERE)
      IF (.NOT.THERE)THEN
         WRITE(6,*)'ERROR - WARPRI.TBL does not exist.'
         GOTO 310
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/REQAST.TMP',EXIST=THERE)
      IF (THERE)THEN
         OPEN(10,FILE='/home/warpam/iofiles/REQAST.TMP',STATUS='OLD')
         CLOSE(10,STATUS='DELETE')
      ENDIF

      OPEN(10,FILE='/home/warpam/iofiles/REQAST.TMP',STATUS='NEW')
      OPEN(915,FILE='/home/warpam/iofiles/REQAST.OUT',STATUS='OLD')
  920 READ(915,'(40(A1))',ERR = 310,END = 951)RQCHR
      WRITE(10,922)RQCHR
  922 FORMAT(40(A1))
      GOTO 920
  951 CLOSE(915,STATUS='KEEP')
      CLOSE(10,STATUS='KEEP')

C  Checks to see if output file exist.  If output file does exist,
C  the old output file is deleted.  File:  XXX.OUT is the temporary
C  file which stores the unsorted TRD's.  File:  MODRQAST.OUT is
C  the final sorted modified requirements asset file with the
C  new TRD's.  File:  USRNPUT.OUT is the user input file that stores
C  all the user variable declarations.

      INQUIRE(FILE='/home/warpam/iofiles/XXX.OUT',EXIST=THERE)
      IF (THERE)THEN
```

```
         OPEN(202,FILE='/home/warpam/iofiles/XXX.OUT',STATUS='OLD')
         CLOSE(202,STATUS='DELETE')
       ENDIF

       INQUIRE(FILE='/home/warpam/iofiles/MODRQAST.OUT',EXIST=THERE)
       IF (THERE)THEN
         OPEN(15,FILE='/home/warpam/iofiles/MODRQAST.OUT',STATUS='OLD')
         CLOSE(15,STATUS='DELETE')
       ENDIF

       INQUIRE(FILE='/home/warpam/iofiles/USRNPUT.OUT',EXIST=THERE)
       IF (THERE)THEN
         WRITE(6,299)
 299     FORMAT(5X,'The USRNPUT.OUT file already exists.',/5X,
      &'The following screen shows the previous input values.',///)
         OPEN(2,FILE='/home/warpam/iofiles/USRNPUT.OUT',STATUS='OLD')
 300     READ(2,'(55(A1))',ERR=301,END=302)UNPT
         WRITE(6,350)UNPT
 350     FORMAT(55(A1))
         GOTO 300
 301     WRITE(6,*)'ERROR READING FILE:  USRNPUT.OUT'
 302     CLOSE(2,STATUS='KEEP')
         OPEN(2,FILE='/home/warpam/iofiles/USRNPUT.OUT',
      &ACCESS='APPEND',STATUS='OLD')
       ELSE
         OPEN(2,FILE='/home/warpam/iofiles/USRNPUT.OUT',STATUS='NEW')
       ENDIF

C  Begin MODRECL

C  User Input Variables
C  Input Variable (Start Time Period and End Time Period)

       WRITE(6,10)
 10    FORMAT(//10X,'ENTER START TIME PERIOD (1-18)')
       READ(*,*)USRNPUT
       IF ((USRNPUT.GT.0).AND.(USRNPUT.LT.19))THEN
         STARTP = USRNPUT
       ELSE
         STARTP = 1
         WRITE(6,12)
 12      FORMAT(/15X,'ERROR - INVALID TIME PERIOD',/15X,
      &  'DEFAULT START TIME PERIOD WILL BE USED:  STARTP = 1')
       ENDIF

       WRITE(6,101)
 101   FORMAT(//10X,'ENTER END TIME PERIOD (1-18)')
       READ(*,*)USRNPUT
       IF ((USRNPUT.GT.0).AND.(USRNPUT.LT.19))THEN
         ENDTP = USRNPUT
       ELSE
         ENDTP = 18
```

```
      WRITE(6,121)
121   FORMAT(/15X,'ERROR - INVALID END TIME PERIOD',/15X,
     &  'DEFAULT END TIME PERIOD WILL BE USED:  ENDTP = 18')
      ENDIF

C  Input Variable (Start Requirement)

 9    WRITE(6,13)
13    FORMAT(//10X,'ENTER START REQUIREMENT',/10X,
     &'(MAX,DEG,AE1,AKO,ASW,CST,CSB)')
      READ(*,*)RDREQ
      IF ((RDREQ.EQ.'MAX').OR.(RDREQ.EQ.'max'))THEN
         WRITE(6,*)'               ERROR - NOT ACCEPTED'
         GOTO 9
      ENDIF
      IF ((RDREQ.EQ.'DEG').OR.(RDREQ.EQ.'deg'))THEN
         ICHK = 1
         SREQ = 'DEG'
         GOTO 32
      ENDIF
      IF ((RDREQ.EQ.'AE1').OR.(RDREQ.EQ.'ae1'))THEN
         ICHK = 1
         SREQ = 'AE1'
         GOTO 32
      ENDIF
      IF ((RDREQ.EQ.'AKO').OR.(RDREQ.EQ.'ako'))THEN
         ICHK = 1
         SREQ = 'AKO'
         GOTO 32
      ENDIF
      IF ((RDREQ.EQ.'ASW').OR.(RDREQ.EQ.'asw'))THEN
         ICHK = 1
         SREQ = 'ASW'
         GOTO 32
      ENDIF
      IF ((RDREQ.EQ.'CST').OR.(RDREQ.EQ.'cst'))THEN
         ICHK = 1
         SREQ = 'CST'
         GOTO 32
      ENDIF
      IF ((RDREQ.EQ.'CSB').OR.(RDREQ.EQ.'csb'))THEN
         ICHK = 1
         SREQ = 'CSB'
         GOTO 32
      ENDIF
      IF (ICHK.EQ.0)THEN
         SREQ = 'DEG'
         WRITE(6,33)
33       FORMAT(/15X,'ERROR - INVALID REQUIREMENT',/15X,
     &   'DEFAULT START REQUIREMENT WILL BE USED:  SREQ = DEG')
      ENDIF
```

```
C  Input Variable (Return To Duty Percent)

 32   WRITE(6,14)
 14   FORMAT(//10X,'ENTER RTD PERCENT(%)',/10X,
     &'(PERCENT WILL BE TRANSLATED TO RATE IN DECIMAL FORM)',
     &/10X,'(NORMAL RTD PERCENT IS 20%)')
      READ(*,*)RDPCNT
      IF ((RDPCNT.GT.0).AND.(RDPCNT.LT.1.0))RETDP = RDPCNT
      IF (RDPCNT.GE.1.0)RETDP = (RDPCNT)/100.0

C  Input Variable (Start Branch and End Branch)

      WRITE(6,115)
 115  FORMAT(//10X,'ENTER START BRANCH (1-67)')
      READ(*,*)USRNPUT
      IF ((USRNPUT.GT.0).AND.(USRNPUT.LT.68))THEN
         STARTBR = USRNPUT
      ELSE
         STARTBR = 1
         WRITE(6,34)
 34      FORMAT(/15X,'ERROR - INVALID START BRANCH NO.',/15X,
     &   'DEFAULT START BRANCH NO. WILL BE USED:  STARTBR = 1')
      ENDIF

      WRITE(6,16)
 16   FORMAT(//10X,'ENTER END BRANCH (1-67)')
      READ(*,*)USRNPUT
      IF ((USRNPUT.GT.0).AND.(USRNPUT.LT.68))THEN
         ENDBR = USRNPUT
      ELSE
         ENDBR = 67
         WRITE(6,334)
 334     FORMAT(/15X,'ERROR - INVALID END BRANCH NO.',/15X,
     &   'DEFAULT END BRANCH NO. WILL BE USED:  ENDBR = 67')
      ENDIF

C  Write user inputs to screen and file:  USRNPUT.OUT

      WRITE(2,81)STARTP,ENDTP,SREQ,RETDP,STARTBR,ENDBR,fdate()
 81   FORMAT(2X,I2,2X,I2,2X,A3,2X,F4.2,2X,I2,2X,I2,3X,A24)
      CLOSE(2,STATUS='KEEP')

      WRITE(6,80)fdate(),STARTP,ENDTP,SREQ,RETDP,STARTBR,ENDBR
 80   FORMAT(//10X,'USER INPUT(S): ',//12X,A24,//12X,
     &'START TIME PERIOD ---> ',I2,/12X,
     &'END TIME PERIOD   ---> ',I2,/12X,
     &'START REQUIREMENT ---> ',A3,/12X,
     &'RTD RATE          ---> ',F4.2,/12X,
     &'START BRANCH NO.  ---> ',I2,/12X,
     &'END BRANCH NO.    ---> ',I2)

C  Subroutines globally store ORCLSPER.TBL, ERCLSPER.TBL,
```

```
C  RCLSDLY.TBL, and WARPRI.TBL.

      CALL ORCT
      CALL ERCT
      CALL RDLY
      CALL WARPRIT

C  Initializes I line counter to zero and initializes the
C  CURNTP [Current time period] and CURBR [Current branch].

      I = 0
      CURNTP = STARTP
      CURBR = STARTBR

C  Prepares a separate file name for the TRD's using the
C  requirement name plus an extension.  i.e.[DEGRCLS.OUT]

      DIRNAM = '/home/warpam/iofiles/'
      FLNAM1 = 'RCLS.OUT'
      FLNAM2 = SREQ // FLNAM1
      FNAME = DIRNAM // FLNAM2

C  Read input file:  REQAST.TMP.

      OPEN(10,FILE='/home/warpam/iofiles/REQAST.TMP',STATUS='OLD')
 666  READ(10,'(40(A1))',ERR=499,END=500)RQCHR
      I = I + 1
      IF (I.LT.4)GOTO 666
      VREQ = RACHR(17:19)
      IF (VREQ.NE.SREQ)GOTO 666
      TP = RACHR(23:24)

C  Subroutine converts Time Period from characters to a numeric
C  value [VTP].

      CALL CNVRTP

      IF (CURNTP.EQ.18)GOTO 500
      IF ((VTP.NE.CURNTP).AND.(VTP.GT.ENDTP))GOTO 500
      IF ((VTP.NE.CURNTP).AND.(VTP.LE.ENDTP))THEN
         CURNTP = VTP
         CURBR = STARTBR
         VBRR = RACHR(25:27)

C  Converts variable branch [VBRR] from character to a numeric
C  value [VBRNH].

         CALL CNVRBR
         IF ((VBRNH.NE.CURBR).AND.(VBRNH.GT.ENDBR))GOTO 500
         IF ((VBRNH.NE.CURBR).AND.(VBRNH.LE.ENDBR))THEN
            CURBR = VBRNH
            CAT = RACHR(3:3)
```

```
            BR  = RACHR(4:5)
            GRD = RACHR(6:7)
            VSTOR = RACHR(35:40)

C  Converts variable strength [VSTR] from character to an
C  numeric value [VSTRNG].

            CALL CNVRSTR
            GOTO 200
         ENDIF

         IF ((VBRNH.EQ.CURBR).AND.(VBRNH.GT.ENDBR))GOTO 500
         IF ((VBRNH.EQ.CURBR).AND.(VBRNH.LE.ENDBR))THEN
            CAT = RACHR(3:3)
            BR  = RACHR(4:5)
            GRD = RACHR(6:7)
            VSTOR = RACHR(35:40)

C  Converts variable strength [VSTR] from character to an
C  numeric value [VSTRNG].

            CALL CNVRSTR
            GOTO 200
         ENDIF
      ENDIF

      IF ((VTP.EQ.CURNTP).AND.(VTP.LE.ENDTP))THEN
         VBRR = RACHR(25:27)

C  Converts variable branch [VBRR] from character to a numeric
C  value [VBRNH].

         CALL CNVRBR

         IF ((VBRNH.NE.CURBR).AND.(VBRNH.GT.ENDBR))GOTO 500
         IF ((VBRNH.NE.CURBR).AND.(VBRNH.LE.ENDBR))THEN
            CURBR = VBRNH
            CAT = RACHR(3:3)
            BR  = RACHR(4:5)
            GRD = RACHR(6:7)
            VSTOR = RACHR(35:40)

C  Converts variable strength [VSTR] from character to an
C  numeric value [VSTRNG].

            CALL CNVRSTR
            GOTO 200
         ENDIF

         IF ((VBRNH.EQ.CURBR).AND.(VBRNH.GT.ENDBR))GOTO 500
         IF ((VBRNH.EQ.CURBR).AND.(VBRNH.LE.ENDBR))THEN
            CAT = RACHR(3:3)
```

```
            BR  = RACHR(4:5)
            GRD = RACHR(6:7)
            VSTOR = RACHR(35:40)

C  Converts variable strength [VSTR] from character to an
C  numeric value [VSTRNG].

            CALL CNVRSTR
            GOTO 200
         ENDIF
      ENDIF

C  Category :  OFFICER, WARRANT, ENLISTED

 200  IF (CAT.EQ.'O')THEN
         NCOLUMN = 18
         TABL = 'O'
         GOTO 250
      ENDIF
      IF (CAT.EQ.'W')THEN
         NCOLUMN = 18
         TABL = 'W'
         GOTO 250
      ENDIF
      IF (CAT.EQ.'E')THEN
         NCOLUMN = 17
         TABL = 'E'
         GOTO 250
      ENDIF

 250  DO 251 LL = 1,NCOLUMN
         IF (TABL.EQ.'O')THEN
            IF (BR.EQ.ORCLBR(LL))GOTO 252
            GOTO 251
         ENDIF
         IF (TABL.EQ.'W')THEN
            IF (LL.LT.16)GOTO 251
            IF (BR.EQ.ORCLBR(LL))GOTO 252
            GOTO 251
         ENDIF
         IF (TABL.EQ.'E')THEN
            IF (BR.EQ.ERCLBR(LL))GOTO 252
            GOTO 251
         ENDIF
 251  CONTINUE

C  Defines new branch using correct table file.

 252  DO 253 JJ = 1,NCOLUMN
         IF (CAT.EQ.'O')THEN
            IF (JJ.GT.15)GOTO 253
            IF (JJ.EQ.1)NEWBR  = 'IN'
```

```
            IF (JJ.EQ.2)NEWBR  = 'AR'
            IF (JJ.EQ.3)NEWBR  = 'FA'
            IF (JJ.EQ.4)NEWBR  = 'AD'
            IF (JJ.EQ.5)NEWBR  = 'AV'
            IF (JJ.EQ.6)NEWBR  = 'CE'
            IF (JJ.EQ.7)NEWBR  = 'SC'
            IF (JJ.EQ.8)NEWBR  = 'MP'
            IF (JJ.EQ.9)NEWBR  = 'MI'
            IF (JJ.EQ.10)NEWBR = 'MC'
            IF (JJ.EQ.11)NEWBR = 'CM'
            IF (JJ.EQ.12)NEWBR = 'TC'
            IF (JJ.EQ.13)NEWBR = 'OD'
            IF (JJ.EQ.14)NEWBR = 'QM'
            IF (JJ.EQ.15)NEWBR = 'CS'
            GOTO 254
         ENDIF
         IF (CAT.EQ.'W')THEN
            IF (JJ.LT.16)GOTO 253
            IF (JJ.EQ.16)NEWBR = 'CB'
            IF (JJ.EQ.17)NEWBR = 'CS'
            IF (JJ.EQ.18)NEWBR = 'CC'
            GOTO 254
         ENDIF
         IF (CAT.EQ.'E')THEN
            IF (JJ.EQ.1)NEWBR  = 'AR'
            IF (JJ.EQ.2)NEWBR  = 'AV'
            IF (JJ.EQ.3)NEWBR  = 'IN'
            IF (JJ.EQ.4)NEWBR  = 'FA'
            IF (JJ.EQ.5)NEWBR  = 'AD'
            IF (JJ.EQ.6)NEWBR  = 'CE'
            IF (JJ.EQ.7)NEWBR  = 'CM'
            IF (JJ.EQ.8)NEWBR  = 'MI'
            IF (JJ.EQ.9)NEWBR  = 'MP'
            IF (JJ.EQ.10)NEWBR = 'SC'
            IF (JJ.EQ.11)NEWBR = 'MC'
            IF (JJ.EQ.12)NEWBR = 'TC'
            IF (JJ.EQ.13)NEWBR = 'MM'
            IF (JJ.EQ.14)NEWBR = 'OD'
            IF (JJ.EQ.15)NEWBR = 'QM'
            IF (JJ.EQ.16)NEWBR = 'SM'
            IF (JJ.EQ.17)NEWBR = 'CS'
            GOTO 254
         ENDIF

C  Extracts new branch and concatenates category, new branch,
C  and grade.  Translates New Branch code using WARPRI.TBL
C  matrix.  Then, spreads new strength over n-new time periods
C  [where maximum n = 6].  Furthermore, the new time period
C  [NTP] is converted to characters and the new time period,
C  branch, and requirement/asset are concatenated.

 254     CBG1 = CAT // NEWBR
```

```
      NEWCBG = CBG1 // GRD

      DO 255 KBR = 1,67
         IF (WPRCODE(KBR).EQ.NEWCBG)THEN
             XTP1 = '0'
             NBRN = WPRNUMB(KBR)
             NWBRCH = XTP1 // NBRN
             GOTO 256
         ENDIF
255   CONTINUE

256   IF (CURNTP.LT.13)LOOP = 6
      IF (CURNTP.EQ.13)LOOP = 5
      IF (CURNTP.EQ.14)LOOP = 4
      IF (CURNTP.EQ.15)LOOP = 3
      IF (CURNTP.EQ.16)LOOP = 2
      IF (CURNTP.EQ.17)LOOP = 1

      SUMRET = 0
      TEMPSTR = NINT(ORCL(LL,JJ) * VSTRNG)
      DO 257 NN = 1,LOOP
         NTP = CURNTP + NN
         NEWSTR = NINT((ORCL(LL,JJ) * VSTRNG) * RDLAY(CURNTP,NN))
         SUMRET = NEWSTR + SUMRET
         IF (NN.EQ.LOOP)THEN
            ADDSTR = TEMPSTR - SUMRET
            NEWSTR =  NEWSTR + ADDSTR
            SUMRET = SUMRET + ADDSTR
         ENDIF
         IF (NEWSTR.LT.0)NEWSTR = 0
         IF (NEWSTR.EQ.0)GOTO 257

         IF (NTP.EQ.1)CHNTP = '01'
         IF (NTP.EQ.2)CHNTP = '02'
         IF (NTP.EQ.3)CHNTP = '03'
         IF (NTP.EQ.4)CHNTP = '04'
         IF (NTP.EQ.5)CHNTP = '05'
         IF (NTP.EQ.6)CHNTP = '06'
         IF (NTP.EQ.7)CHNTP = '07'
         IF (NTP.EQ.8)CHNTP = '08'
         IF (NTP.EQ.9)CHNTP = '09'
         IF (NTP.EQ.10)CHNTP = '10'
         IF (NTP.EQ.11)CHNTP = '11'
         IF (NTP.EQ.12)CHNTP = '12'
         IF (NTP.EQ.13)CHNTP = '13'
         IF (NTP.EQ.14)CHNTP = '14'
         IF (NTP.EQ.15)CHNTP = '15'
         IF (NTP.EQ.16)CHNTP = '16'
         IF (NTP.EQ.17)CHNTP = '17'
         IF (NTP.EQ.18)CHNTP = '18'

         CTPNB = CHNTP // NWBRCH
```

```
            TPBRQA = CTPNB // REQASET

C  Stores new time period, category, branch, requirement/asset.
C  branch code, and strength to array [STOR] & [STORST].

            COUNT = COUNT + 1
            IFLG = 0
            IF (COUNT.GT.1)GOTO 258
            IF (COUNT.EQ.1)THEN
               STOR(COUNT,1) = NEWCBG
               STOR(COUNT,2) = SEX
               STOR(COUNT,3) = TYPE
               STOR(COUNT,4) = TPBRQA
               STORST(COUNT) = NEWSTR
               MAXCOUNT = COUNT
               GOTO 257
            ENDIF

 258        DO 259 NJ = 1,MAXCOUNT
               IF ((NEWCBG.EQ.STOR(NJ,1)).AND.
    &(SEX.EQ.STOR(NJ,2)))GOTO 260
               IFLG = 1
               GOTO 259
 260           IF ((TYPE.EQ.STOR(NJ,3)).AND.
    &(TPBRQA.EQ.STOR(NJ,4)))GOTO 261
               IFLG = 1
               GOTO 259
 261           STORST(NJ) = NEWSTR + STORST(NJ)
               GOTO 257
 259        CONTINUE
            IF (IFLG.EQ.1)THEN
               MAXCOUNT = MAXCOUNT + 1
               STOR(MAXCOUNT,1) = NEWCBG
               STOR(MAXCOUNT,2) = SEX
               STOR(MAXCOUNT,3) = TYPE
               STOR(MAXCOUNT,4) = TPBRQA
               STORST(MAXCOUNT) = NEWSTR
            ENDIF
 257     CONTINUE
 253  CONTINUE

C  Proceeds to next Branch (CURBR = CURBR + 1).

      IF (CURBR.LE.ENDBR)THEN
         CURBR = CURBR + 1
         GOTO 666
      ENDIF

 499  WRITE(6,*)'ERROR READING FILE:  REQAST.TMP'

 500  CLOSE(10,STATUS='KEEP')
```

```
C  Appends results to file:  REQAST.TMP and creates a separate
C  TRD file.

      OPEN(202,FILE='/home/warpam/iofiles/XXX.OUT',STATUS='NEW')
      OPEN(10,FILE='/home/warpam/iofiles/REQAST.TMP',ACCESS='APPEND',
     &STATUS='OLD')
      DO 470 I = 1,MAXCOUNT
       WRITE(202,777)STOR(I,1),STOR(I,2),STOR(I,3),STOR(I,4),STORST(I)
       WRITE(10,777)STOR(I,1),STOR(I,2),STOR(I,3),STOR(I,4),STORST(I)
 777   FORMAT(2X,A5,4X,A1,4X,A3,3X,A9,3X,I6)
 470  CONTINUE
      CLOSE(202,STATUS='KEEP')
      CLOSE(10,STATUS='KEEP')

C  Stores into array to be sorted.

      I = 0
      CNT1 = 0

      OPEN(15,FILE='/home/warpam/iofiles/MODRQAST.OUT',STATUS='NEW')
      OPEN(10,FILE='/home/warpam/iofiles/REQAST.TMP',STATUS='OLD')
  825 READ(10,'(40(A1))',ERR=810,END=811)RQCHR
      I = I + 1
      IF (I.LE.3)THEN
        WRITE(15,701)RQCHR
  701   FORMAT(40(A1))
        GOTO 825
      ENDIF
      CNT1 = CNT1 + 1
      OUTSTR(CNT1)(1:5) = RACHR(3:7)
      OUTSTR(CNT1)(6:6) = RACHR(12:12)
      OUTSTR(CNT1)(7:9) = RACHR(17:19)
      OUTSTR(CNT1)(10:18) = RACHR(23:31)
      OUTSTR(CNT1)(19:24) = RACHR(35:40)
      GOTO 825

  810 WRITE(6,*)'ERROR READING FILE:  REQAST.TMP'
  811 CLOSE(10,STATUS='KEEP')
      CLOSE(15,STATUS='KEEP')

C  Calls subroutine SORTARRAY to resort file and then write
C  to output file:  MODRQAST.OUT.

      CALL SORTARRAY

      OPEN(15,FILE='/home/warpam/iofiles/MODRQAST.OUT',
     &ACCESS='APPEND',STATUS='OLD')
      DO 905 NR = 1,CNT1
         WRITE(15,877)OUTSTR(NR)(1:5),OUTSTR(NR)(6:6),
     &OUTSTR(NR)(7:9),OUTSTR(NR)(10:18),OUTSTR(NR)(19:24)
  877    FORMAT(2X,A5,4X,A1,4X,A3,3X,A9,3X,A6)
  905 CONTINUE
```

```
      CLOSE(15,STATUS='KEEP')

C  Stores into array to be sorted.

      CNT1 = 0

      OPEN(202,FILE='/home/warpam/iofiles/XXX.OUT',STATUS='OLD')
  901 READ(202,'(40(A1))',ERR=918,END=919)RQCHR
      CNT1 = CNT1 + 1
      OUTSTR(CNT1)(1:5) = RACHR(3:7)
      OUTSTR(CNT1)(6:6) = RACHR(12:12)
      OUTSTR(CNT1)(7:9) = RACHR(17:19)
      OUTSTR(CNT1)(10:18) = RACHR(23:31)
      OUTSTR(CNT1)(19:24) = RACHR(35:40)
      GOTO 901

  918 WRITE(6,*)'ERROR READING TEMP FILE:  XXX.OUT'
  919 CLOSE(202,STATUS='KEEP')

C  Calls subroutine SORTARRAY to resort file and the write
C  to output file:  requirement + RCLS.OUT.

      CALL SORTARRAY

C  Checks to see if the separate sorted TRD file exists.  If
C  the file exists, then the old version of the file is deleted
C  and a new TRD file is created.

      INQUIRE(FILE=FNAME,EXIST=THERE)
      IF (THERE)THEN
        OPEN(201,FILE=FNAME,STATUS='OLD')
        CLOSE(201,STATUS='DELETE')
      ENDIF

      OPEN(201,FILE=FNAME,STATUS='NEW')
      DO 925 KL = 1,CNT1
         WRITE(201,923)OUTSTR(KL)(1:5),OUTSTR(KL)(6:6),
     &OUTSTR(KL)(7:9),OUTSTR(KL)(10:18),OUTSTR(KL)(19:24)
  923    FORMAT(2X,A5,4X,A1,4X,A3,3X,A9,3X,A6)
  925 CONTINUE
      CLOSE(201,STATUS='KEEP')

C  Deletes file:  XXX.OUT temporary files which stored the
C  unsorted TRD's

      OPEN(202,FILE='/home/warpam/iofiles/XXX.OUT',STATUS='OLD')
      CLOSE(202,STATUS='DELETE')
  310 WRITE(6,*)'  RECLAS MODIFICATION MODEL COMPLETED '
      STOP
      END

C   END MODRCLS.FOR
```

```
C*************************************************************************
C                          SUBROUTINES
C*************************************************************************

C*************************************************************************
C
C  Program Name:  ORCT                        Date:  05-23-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Read and stores Officers Reclas Table to an array.
C
C  Input:         ORCLSPER.TBL
C
C  Output:        .
C
C*************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:          Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/31/90  Modified directory changes.       BAW
C
C*************************************************************************

      SUBROUTINE ORCT

C  Global Variables

      DIMENSION ORCL(18,18),ORCLBR(18)
      CHARACTER*1 OCHR(110)
      CHARACTER*2 ORCLBR
      CHARACTER*110 ORCHR
      REAL ORCL,RETDP
      INTEGER I,L,M

      COMMON/PASRTD/RETDP
      COMMON/OCLST/ORCL,ORCLBR
      EQUIVALENCE (OCHR(1),ORCHR)

C  Local Variables

      I = 0
      L = 0
      M = 0
      SUM = 0

      OPEN(5,FILE='/home/warpam/iofiles/ORCLSPER.TBL',STATUS='OLD')
   10 READ(5,'(110(A1))',ERR=99,END=100)OCHR
      I = I + 1
```

```
IF (I.LT.3)GOTO 10
M = M + 1
ORCLBR(M) = ORCHR(1:2)
DO 11 J = 1,110
   IF (J.LT.5)GOTO 11
   IF ((J.GT.8).AND.(J.LT.11))GOTO 11
   IF ((J.GT.14).AND.(J.LT.17))GOTO 11
   IF ((J.GT.20).AND.(J.LT.23))GOTO 11
   IF ((J.GT.26).AND.(J.LT.29))GOTO 11
   IF ((J.GT.32).AND.(J.LT.35))GOTO 11
   IF ((J.GT.38).AND.(J.LT.41))GOTO 11
   IF ((J.GT.44).AND.(J.LT.47))GOTO 11
   IF ((J.GT.50).AND.(J.LT.53))GOTO 11
   IF ((J.GT.56).AND.(J.LT.59))GOTO 11
   IF ((J.GT.62).AND.(J.LT.65))GOTO 11
   IF ((J.GT.68).AND.(J.LT.71))GOTO 11
   IF ((J.GT.74).AND.(J.LT.77))GOTO 11
   IF ((J.GT.80).AND.(J.LT.83))GOTO 11
   IF ((J.GT.86).AND.(J.LT.89))GOTO 11
   IF ((J.GT.92).AND.(J.LT.95))GOTO 11
   IF ((J.GT.98).AND.(J.LT.101))GOTO 11
   IF ((J.GT.104).AND.(J.LT.107))GOTO 11
   XX = ICHAR(ORCHR(J:J))
   NUM = (79-(127-XX))
   IF (NUM.LT.0)NUM = 0
   IF ((J.GT.4).AND.(J.LT.9))THEN
      L = L + 1
      IF (J.EQ.5)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.6)GOTO 11
      IF (J.EQ.7)NUM = NUM * 10
      IF (J.EQ.8)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ORCL(M,1) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.10).AND.(J.LT.15))THEN
      L = L + 1
      IF (J.EQ.11)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.12)GOTO 11
      IF (J.EQ.13)NUM = NUM * 10
      IF (J.EQ.14)NUM = NUM * 1
      SUM = SUM + NUM
```

```
      IF (L.EQ.4)THEN
         L = 0
         ORCL(M,2) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.16).AND.(J.LT.21))THEN
      L = L + 1
      IF (J.EQ.17)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.18)GOTO 11
      IF (J.EQ.19)NUM = NUM * 10
      IF (J.EQ.20)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ORCL(M,3) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.22).AND.(J.LT.27))THEN
      L = L + 1
      IF (J.EQ.23)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.24)GOTO 11
      IF (J.EQ.25)NUM = NUM * 10
      IF (J.EQ.26)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ORCL(M,4) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.28).AND.(J.LT.33))THEN
      L = L + 1
      IF (J.EQ.29)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.30)GOTO 11
      IF (J.EQ.31)NUM = NUM * 10
      IF (J.EQ.32)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
```

```
            L = 0
            ORCL(M,5) = (AD+(SUM/100.0))*RETDP
            SUM = 0
         ENDIF
         GOTO 11
      ENDIF
      IF ((J.GT.34).AND.(J.LT.39))THEN
         L = L + 1
         IF (J.EQ.35)THEN
            AD = NUM
            GOTO 11
         ENDIF
         IF (J.EQ.36)GOTO 11
         IF (J.EQ.37)NUM = NUM * 10
         IF (J.EQ.38)NUM = NUM * 1
         SUM = SUM + NUM
         IF (L.EQ.4)THEN
            L = 0
            ORCL(M,6) = (AD+(SUM/100.0))*RETDP
            SUM = 0
         ENDIF
         GOTO 11
      ENDIF
      IF ((J.GT.40).AND.(J.LT.45))THEN
         L = L + 1
         IF (J.EQ.41)THEN
            AD = NUM
            GOTO 11
         ENDIF
         IF (J.EQ.42)GOTO 11
         IF (J.EQ.43)NUM = NUM * 10
         IF (J.EQ.44)NUM = NUM * 1
         SUM = SUM + NUM
         IF (L.EQ.4)THEN
            L = 0
            ORCL(M,7) = (AD+(SUM/100.0))*RETDP
            SUM = 0
         ENDIF
         GOTO 11
      ENDIF
      IF ((J.GT.46).AND.(J.LT.51))THEN
         L = L + 1
         IF (J.EQ.47)THEN
            AD = NUM
            GOTO 11
         ENDIF
         IF (J.EQ.48)GOTO 11
         IF (J.EQ.49)NUM = NUM * 10
         IF (J.EQ.50)NUM = NUM * 1
         SUM = SUM + NUM
         IF (L.EQ.4)THEN
            L = 0
```

```
      ORCL(M,8) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.52).AND.(J.LT.57))THEN
   L = L + 1
   IF (J.EQ.53)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.54)GOTO 11
   IF (J.EQ.55)NUM = NUM * 10
   IF (J.EQ.56)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ORCL(M,9) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.58).AND.(J.LT.63))THEN
   L = L + 1
   IF (J.EQ.59)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.60)GOTO 11
   IF (J.EQ.61)NUM = NUM * 10
   IF (J.EQ.62)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ORCL(M,10) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.64).AND.(J.LT.69))THEN
   L = L + 1
   IF (J.EQ.65)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.66)GOTO 11
   IF (J.EQ.67)NUM = NUM * 10
   IF (J.EQ.68)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ORCL(M,11) = (AD+(SUM/100.0))*RETDP
```

```
            SUM = 0
         ENDIF
         GOTO 11
      ENDIF
      IF ((J.GT.70).AND.(J.LT.75))THEN
         L = L + 1
         IF (J.EQ.71)THEN
            AD = NUM
            GOTO 11
         ENDIF
         IF (J.EQ.72)GOTO 11
         IF (J.EQ.73)NUM = NUM * 10
         IF (J.EQ.74)NUM = NUM * 1
         SUM = SUM + NUM
         IF (L.EQ.4)THEN
            L = 0
            ORCL(M,12) = (AD+(SUM/100.0))*RETDP
            SUM = 0
         ENDIF
         GOTO 11
      ENDIF
      IF ((J.GT.76).AND.(J.LT.81))THEN
         L = L + 1
         IF (J.EQ.77)THEN
            AD = NUM
            GOTO 11
         ENDIF
         IF (J.EQ.78)GOTO 11
         IF (J.EQ.79)NUM = NUM * 10
         IF (J.EQ.80)NUM = NUM * 1
         SUM = SUM + NUM
         IF (L.EQ.4)THEN
            L = 0
            ORCL(M,13) = (AD+(SUM/100.0))*RETDP
            SUM = 0
         ENDIF
         GOTO 11
      ENDIF
      IF ((J.GT.82).AND.(J.LT.87))THEN
         L = L + 1
         IF (J.EQ.83)THEN
            AD = NUM
            GOTO 11
         ENDIF
         IF (J.EQ.84)GOTO 11
         IF (J.EQ.85)NUM = NUM * 10
         IF (J.EQ.86)NUM = NUM * 1
         SUM = SUM + NUM
         IF (L.EQ.4)THEN
            L = 0
            ORCL(M,14) = (AD+(SUM/100.0))*RETDP
            SUM = 0
```

```
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.88).AND.(J.LT.93))THEN
      L = L + 1
      IF (J.EQ.89)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.90)GOTO 11
      IF (J.EQ.91)NUM = NUM * 10
      IF (J.EQ.92)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ORCL(M,15) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.94).AND.(J.LT.99))THEN
      L = L + 1
      IF (J.EQ.95)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.96)GOTO 11
      IF (J.EQ.97)NUM = NUM * 10
      IF (J.EQ.98)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ORCL(M,16) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.100).AND.(J.LT.105))THEN
      L = L + 1
      IF (J.EQ.101)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.102)GOTO 11
      IF (J.EQ.103)NUM = NUM * 10
      IF (J.EQ.104)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ORCL(M,17) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
```

```
            GOTO 11
         ENDIF
         IF ((J.GT.106).AND.(J.LT.111))THEN
            L = L + 1
            IF (J.EQ.107)THEN
               AD = NUM
               GOTO 11
            ENDIF
            IF (J.EQ.108)GOTO 11
            IF (J.EQ.109)NUM = NUM * 10
            IF (J.EQ.110)NUM = NUM * 1
            SUM = SUM + NUM
            IF (L.EQ.4)THEN
               L = 0
               ORCL(M,18) = (AD+(SUM/100.0))*RETDP
               SUM = 0
            ENDIF
            GOTO 11
         ENDIF
  11  CONTINUE
      GOTO 10

  99  WRITE(6,*)'ERROR READING FILE:  ORCLSPER.TBL'
 100  CLOSE(5,STATUS='KEEP')

C    Exit subroutine and return to main program.

      RETURN
      END

C    END ORCLS.FOR
```

```
C*******************************************************************************
C
C  Program Name:  ERCT                          Date:  05-23-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Read and stores Enlisted Reclas Table toa an array.
C
C  Input:         ERCLSPER.TBL
C
C  Output:        .
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:          Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/31/90  Modified directory changes.       BAW
C
C*******************************************************************************

      SUBROUTINE ERCT

C  Global Variables

      DIMENSION ERCL(17,17),ERCLBR(17)
      CHARACTER*1 ECHR(104)
      CHARACTER*2 ERCLBR
      CHARACTER*104 ERCHR
      REAL ERCL,RETDP
      INTEGER I,L,M

      COMMON/PASRTD/RETDP
      COMMON/ECLST/ERCL,ERCLBR
      EQUIVALENCE (ECHR(1),ERCHR)

C  Local Variables

      I = 0
      L = 0
      M = 0
      SUM = 0

      OPEN(4,FILE='/home/warpam/iofiles/ERCLSPER.TBL',STATUS='OLD')
   10 READ(4,'(104(A1))',ERR=99,END=100)ECHR
      I = I + 1
      IF (I.LT.3)GOTO 10
      M = M + 1
      ERCLBR(M) = ERCHR(1:2)
      DO 11 J = 1,104
```

```
IF (J.LT.5)GOTO 11
IF ((J.GT.8).AND.(J.LT.11))GOTO 11
IF ((J.GT.14).AND.(J.LT.17))GOTO 11
IF ((J.GT.20).AND.(J.LT.23))GOTO 11
IF ((J.GT.26).AND.(J.LT.29))GOTO 11
IF ((J.GT.32).AND.(J.LT.35))GOTO 11
IF ((J.GT.38).AND.(J.LT.41))GOTO 11
IF ((J.GT.44).AND.(J.LT.47))GOTO 11
IF ((J.GT.50).AND.(J.LT.53))GOTO 11
IF ((J.GT.56).AND.(J.LT.59))GOTO 11
IF ((J.GT.62).AND.(J.LT.65))GOTO 11
IF ((J.GT.68).AND.(J.LT.71))GOTO 11
IF ((J.GT.74).AND.(J.LT.77))GOTO 11
IF ((J.GT.80).AND.(J.LT.83))GOTO 11
IF ((J.GT.86).AND.(J.LT.89))GOTO 11
IF ((J.GT.92).AND.(J.LT.95))GOTO 11
IF ((J.GT.98).AND.(J.LT.101))GOTO 11
XX = ICHAR(ERCHR(J:J))
NUM = (79-(127-XX))
IF (NUM.LT.0)NUM = 0
IF ((J.GT.4).AND.(J.LT.9))THEN
   L = L + 1
   IF (J.EQ.5)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.6)GOTO 11
   IF (J.EQ.7)NUM = NUM * 10
   IF (J.EQ.8)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,1) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.10).AND.(J.LT.15))THEN
   L = L + 1
   IF (J.EQ.11)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.12)GOTO 11
   IF (J.EQ.13)NUM = NUM * 10
   IF (J.EQ.14)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,2) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
```

```
      GOTO 11
   ENDIF
   IF ((J.GT.16).AND.(J.LT.21))THEN
      L = L + 1
      IF (J.EQ.17)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.18)GOTO 11
      IF (J.EQ.19)NUM = NUM * 10
      IF (J.EQ.20)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ERCL(M,3) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.22).AND.(J.LT.27))THEN
      L = L + 1
      IF (J.EQ.23)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.24)GOTO 11
      IF (J.EQ.25)NUM = NUM * 10
      IF (J.EQ.26)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ERCL(M,4) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.28).AND.(J.LT.33))THEN
      L = L + 1
      IF (J.EQ.29)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.30)GOTO 11
      IF (J.EQ.31)NUM = NUM * 10
      IF (J.EQ.32)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ERCL(M,5) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
```

```
ENDIF
IF ((J.GT.34).AND.(J.LT.39))THEN
   L = L + 1
   IF (J.EQ.35)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.36)GOTO 11
   IF (J.EQ.37)NUM = NUM * 10
   IF (J.EQ.38)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,6) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.40).AND.(J.LT.45))THEN
   L = L + 1
   IF (J.EQ.41)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.42)GOTO 11
   IF (J.EQ.43)NUM = NUM * 10
   IF (J.EQ.44)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,7) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.46).AND.(J.LT.51))THEN
   L = L + 1
   IF (J.EQ.47)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.48)GOTO 11
   IF (J.EQ.49)NUM = NUM * 10
   IF (J.EQ.50)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,8) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
```

```
IF ((J.GT.52).AND.(J.LT.57))THEN
   L = L + 1
   IF (J.EQ.53)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.54)GOTO 11
   IF (J.EQ.55)NUM = NUM * 10
   IF (J.EQ.56)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,9) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.58).AND.(J.LT.63))THEN
   L = L + 1
   IF (J.EQ.59)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.60)GOTO 11
   IF (J.EQ.61)NUM = NUM * 10
   IF (J.EQ.62)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,10) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.64).AND.(J.LT.69))THEN
   L = L + 1
   IF (J.EQ.65)THEN
      AD = NUM
      GOTO 11
   ENDIF
   IF (J.EQ.66)GOTO 11
   IF (J.EQ.67)NUM = NUM * 10
   IF (J.EQ.68)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
      L = 0
      ERCL(M,11) = (AD+(SUM/100.0))*RETDP
      SUM = 0
   ENDIF
   GOTO 11
ENDIF
IF ((J.GT.70).AND.(J.LT.75))THEN
```

```
      L = L + 1
      IF (J.EQ.71)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.72)GOTO 11
      IF (J.EQ.73)NUM = NUM * 10
      IF (J.EQ.74)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ERCL(M,12) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.76).AND.(J.LT.81))THEN
      L = L + 1
      IF (J.EQ.77)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.78)GOTO 11
      IF (J.EQ.79)NUM = NUM * 10
      IF (J.EQ.80)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ERCL(M,13) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.82).AND.(J.LT.87))THEN
      L = L + 1
      IF (J.EQ.83)THEN
         AD = NUM
         GOTO 11
      ENDIF
      IF (J.EQ.84)GOTO 11
      IF (J.EQ.85)NUM = NUM * 10
      IF (J.EQ.86)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
         L = 0
         ERCL(M,14) = (AD+(SUM/100.0))*RETDP
         SUM = 0
      ENDIF
      GOTO 11
   ENDIF
   IF ((J.GT.88).AND.(J.LT.93))THEN
      L = L + 1
```

```
            IF (J.EQ.89)THEN
               AD = NUM
               GOTO 11
            ENDIF
            IF (J.EQ.90)GOTO 11
            IF (J.EQ.91)NUM = NUM * 10
            IF (J.EQ.92)NUM = NUM * 1
            SUM = SUM + NUM
            IF (L.EQ.4)THEN
               L = 0
               ERCL(M,15) = (AD+(SUM/100.0))*RETDP
               SUM = 0
            ENDIF
            GOTO 11
         ENDIF
         IF ((J.GT.94).AND.(J.LT.99))THEN
            L = L + 1
            IF (J.EQ.95)THEN
               AD = NUM
               GOTO 11
            ENDIF
            IF (J.EQ.96)GOTO 11
            IF (J.EQ.97)NUM = NUM * 10
            IF (J.EQ.98)NUM = NUM * 1
            SUM = SUM + NUM
            IF (L.EQ.4)THEN
               L = 0
               ERCL(M,16) = (AD+(SUM/100.0))*RETDP
               SUM = 0
            ENDIF
            GOTO 11
         ENDIF
         IF ((J.GT.100).AND.(J.LT.105))THEN
            L = L + 1
            IF (J.EQ.101)THEN
               AD = NUM
               GOTO 11
            ENDIF
            IF (J.EQ.102)GOTO 11
            IF (J.EQ.103)NUM = NUM * 10
            IF (J.EQ.104)NUM = NUM * 1
            SUM = SUM + NUM
            IF (L.EQ.4)THEN
               L = 0
               ERCL(M,17) = (AD+(SUM/100.0))*RETDP
               SUM = 0
            ENDIF
            GOTO 11
         ENDIF
11    CONTINUE
      GOTO 10
```

```
 99  WRITE(6,*)'ERROR READING FILE:  ERCLSPER.TBL'
100  CLOSE(4,STATUS='KEEP')

C    Exit subroutine and return to main program.

       RETURN
       END

C    END ERCLS.FOR
```

```
C*******************************************************************************
C
C  Program Name:  RDLY                          Date:  05-23-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C                 Reads and stores time periods to delay return of
C                 TRD and percentage into each time period.
C
C  Input:         RCLSDLY.TBL
C
C  Output:        .
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/31/90  Modified directory changes.       BAW
C
C*******************************************************************************

      SUBROUTINE RDLY

C  Global Variables

      DIMENSION RDLAY(18,6)
      CHARACTER*1 RCHR(62)
      CHARACTER*62 RCCHR
      REAL RDLAY
      INTEGER I,J,L,M

      COMMON/RCDLY/RDLAY
      EQUIVALENCE (RCHR(1),RCCHR)

C  Local Variables

      I = 0
      J = 0
      L = 0
      M = 0
      SUM = 0

      OPEN(3,FILE='/home/warpam/iofiles/RCLSDLY.TBL',STATUS='OLD')
   10 READ(3,'(142(A1))',ERR=99,END=100)RCHR
      I = I + 1
      IF (I.LT.3)GOTO 10
      M = M + 1
      DO 30 K = 1,62
        IF (K.LT.9)GOTO 30
```

```
IF ((K.GT.12).AND.(K.LT.19))GOTO 30
IF ((K.GT.22).AND.(K.LT.29))GOTO 30
IF ((K.GT.32).AND.(K.LT.39))GOTO 30
IF ((K.GT.42).AND.(K.LT.49))GOTO 30
IF ((K.GT.52).AND.(K.LT.59))GOTO 30
XX = ICHAR(RCCHR(K:K))
NUM = (79-(127-XX))
IF ((K.GT.8).AND.(K.LT.13))THEN
   L = L + 1
   IF (K.EQ.9)THEN
     AD = NUM
     GOTO 30
   ENDIF
   IF (K.EQ.10)GOTO 30
   IF (K.EQ.11)NUM = NUM * 10
   IF (K.EQ.12)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
     L = 0
     SUM = AD + (SUM/100.0)
     RDLAY(M,1) = SUM
     SUM = 0
   ENDIF
   GOTO 30
ENDIF
IF ((K.GT.18).AND.(K.LT.23))THEN
   L = L + 1
   IF (K.EQ.19)THEN
     AD = NUM
     GOTO 30
   ENDIF
   IF (K.EQ.20)GOTO 30
   IF (K.EQ.21)NUM = NUM * 10
   IF (K.EQ.22)NUM = NUM * 1
   SUM = SUM + NUM
   IF (L.EQ.4)THEN
     L = 0
     SUM = AD + (SUM/100.0)
     RDLAY(M,2) = SUM
     SUM = 0
   ENDIF
   GOTO 30
ENDIF
IF ((K.GT.28).AND.(K.LT.33))THEN
   L = L + 1
   IF (K.EQ.29)THEN
     AD = NUM
     GOTO 30
   ENDIF
   IF (K.EQ.30)GOTO 30
   IF (K.EQ.31)NUM = NUM * 10
   IF (K.EQ.32)NUM = NUM * 1
```

```
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
        L = 0
        SUM = AD + (SUM/100.0)
        RDLAY(M,3) = SUM
        SUM = 0
      ENDIF
      GOTO 30
    ENDIF
    IF ((K.GT.38).AND.(K.LT.43))THEN
      L = L + 1
      IF (K.EQ.39)THEN
        AD = NUM
        GOTO 30
      ENDIF
      IF (K.EQ.40)GOTO 30
      IF (K.EQ.41)NUM = NUM * 10
      IF (K.EQ.42)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
        L = 0
        SUM = AD + (SUM/100.0)
        RDLAY(M,4) = SUM
        SUM = 0
      ENDIF
      GOTO 30
    ENDIF
    IF ((K.GT.48).AND.(K.LT.53))THEN
      L = L + 1
      IF (K.EQ.49)THEN
        AD = NUM
        GOTO 30
      ENDIF
      IF (K.EQ.50)GOTO 30
      IF (K.EQ.51)NUM = NUM * 10
      IF (K.EQ.52)NUM = NUM * 1
      SUM = SUM + NUM
      IF (L.EQ.4)THEN
        L = 0
        SUM = AD + (SUM/100.0)
        RDLAY(M,5) = SUM
        SUM = 0
      ENDIF
      GOTO 30
    ENDIF
    IF ((K.GT.58).AND.(K.LT.63))THEN
      L = L + 1
      IF (K.EQ.59)THEN
        AD = NUM
        GOTO 30
      ENDIF
      IF (K.EQ.60)GOTO 30
```

```
            IF (K.EQ.61)NUM = NUM * 10
            IF (K.EQ.62)NUM = NUM * 1
            SUM = SUM + NUM
            IF (L.EQ.4)THEN
              L = 0
              SUM = AD + (SUM/100.0)
              RDLAY(M,6) = SUM
              SUM = 0
            ENDIF
            GOTO 30
          ENDIF
   30   CONTINUE
        GOTO 10

   99   WRITE(6,*)'ERROR READING FILE:  RCLSDLY.TBL'
  100   CLOSE(3,STATUS='KEEP')

C     Exit subroutine and return to main program.

        RETURN
        END

C     END RCDLY.FOR
```

```
C*****************************************************************************
C
C  Program Name:  WARPRIT                          Date:  05-22-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Read and stores Warpam Branch Priority Table to
C                 an array.
C
C  Input:         WARPRI.TBL
C
C  Output:        .
C
C*****************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C    01       C     05/31/90  Modified directory changes.        BAW
C
C*****************************************************************************

      SUBROUTINE WARPRIT

C  Global Variables

      DIMENSION WPRNUMB(67),WPRCODE(67)
      CHARACTER*1 WCHR(8)
      CHARACTER*2 WNUM,WPRNUMB
      CHARACTER*5 WBRH,WPRCODE
      CHARACTER*8 XCHR
      INTEGER I

      COMMON/WARPR/WPRNUMB,WPRCODE
      EQUIVALENCE (WCHR(1),XCHR)

C  Local Variables

      I = 0

      OPEN(5,FILE='/home/warpam/iofiles/WARPRI.TBL',STATUS='OLD')
   10 READ(5,'(8(A1))',ERR=99,END=100)WCHR
      I = I + 1
      WNUM = XCHR(1:2)
      WBRH = XCHR(4:8)
      WPRNUMB(I) = WNUM
      WPRCODE(I) = WBRH
      GOTO 10

   99 WRITE(6,*)'ERROR READING FILE:  WARPRI.TBL'
```

```
 100  CLOSE(5,STATUS='KEEP')
C    Exit subroutine and return to main program.
       RETURN
       END
C    END WARP.FOR
```

```
C*******************************************************************************
C
C  Program Name:  CNVRTP                        Date:  06-05-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Converts time period from characters to an numeric
C                 value [VTP].
C
C  Input:         .
C
C  Output:        .
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C
C
C*******************************************************************************

      SUBROUTINE CNVRTP

C  Global Variables

      CHARACTER*1 RQCHR(40)
      CHARACTER*40 RACHR

      INTEGER VTP,IC,II,XX,NUM

      COMMON/CVRTT/RQCHR,VTP,VBRNH,VSTRNG

      EQUIVALENCE (RQCHR(1),RACHR)

C  Local Variables

      VTP = 0
      NUM = 0
      II = 22

C  Begin Subroutine CNVRTP

      DO 100 IC = 1,2
         II = II + 1
         XX = ICHAR(RACHR(II:II))
         NUM = (79-(127-XX))
         IF (NUM.LT.0)NUM = 0
         IF (IC.EQ.1)NUM = NUM * 10
         IF (IC.EQ.2)NUM = NUM * 1
```

```
          VTP = VTP + NUM
  100  CONTINUE

C     Exit subroutine and return to main program.

        RETURN
        END

C     END SUBROUTINE CNVRTP
```

```
C*******************************************************************************
C
C  Program Name:  CNVRBR                        Date:  06-05-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Converts variable branch [VBRR] from character to an
C                 numeric value [VBRNH].
C
C  Input:         .
C
C  Output:        .
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C
C
C*******************************************************************************

      SUBROUTINE CNVRBR

C  Global Variables

      CHARACTER*1 RQCHR(40)
      CHARACTER*40 RACHR

      INTEGER VBRNH,IC,II,XX,NUM

      COMMON/CVRTT/RQCHR,VTP,VBRNH,VSTRNG

      EQUIVALENCE (RQCHR(1),RACHR)

C  Local Variables

      VBRNH = 0
      NUM = 0
      II = 24

C  Begin Subroutine CNVRBR

      DO 100 IC = 1,3
         II = II + 1
         XX = ICHAR(RACHR(II:II))
         NUM = (79-(127-XX))
         IF (NUM.LT.0)NUM = 0
         IF (IC.EQ.1)NUM = NUM * 100
         IF (IC.EQ.2)NUM = NUM * 10
```

```
          IF (IC.EQ.3)NUM = NUM * 1
          VBRNH = VBRNH + NUM
  100   CONTINUE

C     Exit subroutine and return to main program.

        RETURN
        END

C     END SUBROUTINE CNVRBR
```

```
C*******************************************************************************
C
C  Program Name:  CNVRSTR                      Date:  06-05-1990
C
C  File Name:     MODRCLS.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Converts variable strength [VSTR] from character to
C                 an numeric value [VSTRNG].
C
C  Input:         .
C
C  Output:        .
C
C*******************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:              Initials
C  ------   ------  --------  --------------------------  --------------
C
C
C*******************************************************************************

      SUBROUTINE CNVRSTR

C  Global Variables

      CHARACTER*1 RQCHR(40)
      CHARACTER*40 RACHR

      INTEGER VSTRNG,IC,II,XX,NUM

      COMMON/CVRTT/RQCHR,VTP,VBRNH,VSTRNG

      EQUIVALENCE (RQCHR(1),RACHR)

C  Local Variables

      VSTRNG = 0
      NUM = 0
      II = 34

C  Begin Subroutine CNVRSTR

      DO 100 IC = 1,6
         II = II + 1
         XX = ICHAR(RACHR(II:II))
         NUM = (79-(127-XX))
         IF (NUM.LT.0)NUM = 0
         IF (IC.EQ.1)NUM = NUM * 100000
         IF (IC.EQ.2)NUM = NUM * 10000
```

```
            IF (IC.EQ.3)NUM = NUM * 1000
            IF (IC.EQ.4)NUM = NUM * 100
            IF (IC.EQ.5)NUM = NUM * 10
            IF (IC.EQ.6)NUM = NUM * 1
            VSTRNG = VSTRNG + NUM
 100  CONTINUE

C    Exit subroutine and return to main program.

        RETURN
        END

C    END SUBROUTINE CNVRSTR
```

```
C*****************************************************************
C*****************************************************************
C                                                                *
C PROGRAMMER:  JOHN A. TENSHAW                                   *
C COMPANY    :  SAIC                                             *
C ADDRESS    :  1710 GOODRIDGE DR. MS-T-1-7-2, MCLEAN, VA. 22102 *
C PHONE      :  703-734-5584                                     *
C DATE       :  5 MAY 90                                         *
C                                                                *
C SUBROUTINE SORTARRAY                                           *
C This subroutine uses a shell sort to sort OUTSTR BY time per/ *
C priority (elem 10-18) in ascending order.                      *
C                                                                *
C*****************************************************************

      SUBROUTINE SORTARRAY

      DIMENSION OUTSTR(40000)
      CHARACTER*24 OUTSTR,TEMP

      LOGICAL INORDR

      INTEGER CNT1,CTR,NDELTA

      COMMON/JTSRT/OUTSTR,CNT1

      NDELTA = CNT1
  800 IF (NDELTA.GT.1)THEN
         NDELTA = NDELTA/2
  810    INORDR = .TRUE.
         DO 820, CTR = 1, CNT1 - NDELTA
          IF (OUTSTR(CTR)(10:18).GT.OUTSTR(CTR+NDELTA)(10:18))THEN
               TEMP = OUTSTR(CTR)
               OUTSTR(CTR) = OUTSTR(CTR+NDELTA)
               OUTSTR(CTR+NDELTA) = TEMP
               INORDR = .FALSE.
          ENDIF
  820    CONTINUE
         IF (.NOT.INORDR)GOTO 810
         GOTO 800
      ENDIF

C  Exit subroutine
      RETURN
      END
```

SECTION 6
CONUS REPLACEMENT CENTER / OCONUS REPLACEMENT CO. (CRC) MODEL

6.1 GENERAL

The CRC Model is designed to represent the flow of personnel replacements through a CONUS CRC or OCONUS Replacement Battalion. The model, designed in FORTRAN and SLAM II, depicts the micro-level flow of personnel through the various stations in the replacement facilities over a number of time periods to meet a specific requirement designated by the user. Statistics are provided for both the operation of the replacement facility and the macro-level flow through the system. The first time period of the model is designed to represent the buildup of personnel in the system. Accordingly, there is no output from the system until the first person or groups has completed processing the entire system. Time periods 2 through 18 are designed to represent a steady-state operation. Under these conditions, personnel exit the process as soon as the time period begins to represent those personnel in the system at the end of the last time period.

6.2 INITIATION

The CRC Model is initiated through user input from a Sun window which activates the SLAM II and FORTRAN programs. Programs may be initiated, viewed or modified by bypassing the sunview option and accessing the programs directly using the Sun VI editor. If the required files are in place and the user is prepared to proceed, the user must type "go" on the response line to advance to the first input variable. This input line ONLY ACCEPTS the word "go" in lower case letters.

6.3 INPUT FILES

Files required to operate the specific routines and sub-routines are listed in the programs below.

6.4 INPUT VARIABLES

The user is prompted by the input screen to input the following input variables on a response line: (input variables from previous runs are shown on the input screen prior to the first response)

Requirement File: Which of the various requirement files does the user desire to use for this run of the model. The available requirement files are listed at the input line. The Reclassification Model will not accept the MAX requirement file as an input and will run the DEG file in its place.

End Time Period: A time period is 10 days. The model will only run for the time periods inputted. The user must input the end time period for each run. The model always starts with time period one due to the input data (all

MOBMAN assets are in time period one at the beginning of the model run). If end time period is "10" is selected the model will run time periods "1-10" inclusive. WARPAM will produce a statistical analysis of the processing times and queues for each of these time periods.

Branch: Branch represents the specialties/MOS and grade combinations which have been grouped together in the preprocessor. These branches are then prioritized in the Branch Look-Up Table and given a priority number. The user should consult the current table in the preprocessor to determine the priority code for specific branches. The model can be run with one up to the maximum number of branches which were created in the preprocessor. The initial version of WARPAM has 67 branch/grade combinations.

CRC or Replacement Co: The user must select either a CRC or an OCONUS Replacement Company operation to model. The CRC model does not process Theater Return-To-Duty personnel, but reduces the requirement by an equal amount to account for these personnel being supplied from within a theater. The CRC model also increases the requirement for each branch to offset transient casualties based on a user inputted attrition factor.

Attrition Factor: When operated as a CRC model, the requirement for each branch for each time period is increased to account for transient replacement casualties. The user is asked to enter a rate (percentage) which the model uses to calculate this increase. The response line will accept a percentage ranging from .1% (.001) to 99.9% (.999). This response should be typed in decimal format (eg .04). However, the model will accept integers and transforms these to decimal input internally.

SLAM II Variables: The Programmers manual should be consulted for desired changes in the SLAM section of the model. Specific variables which must be considered in operating the model which are situated with SLAM are:

Time Constraint: The CRC model will suspend operation for a time period if the specified time for a time period has elapsed.

Transportation Constraint: The CRC model will suspend operation for a time period if the specified transportation assets for a time period have been expended.

6.5 PROCESSING

The CRC model is the most intricate of the WARPAM models. The program is initiated through a FORTRAN routine which prompts a second routine to produce an assets file based on the requirements file selected by the user. This program reads the MODRQAST.TBL, determines the requirement and then builds a file with line entries consisting of single asset types. The assets file consists of as many asset type entries as necessary to sum to the exact requirements for each branch per time period. SLAM terminates the processing when either the time limit for the period is reached, there are no entities in the system, or, if transportation constraints have been invoked, there are no remaining transportation assets. At the completion of the SLAM processing

cycle a set of statistics for the time period labeled either CRC(REQ FILE NAME)(TIME PERIOD).OUT or RPL with the same format (eg. crc1.out, rpl2.out). An example of this format is at Annex C. The model then has a build-in delay, currently set at approximately nine minutes to allow this stats table to be built prior to the next time period run. The next FORTRAN program prompted is the UPDATE sub-routine which encompasses shifting unfilled requirements and used assets to the next time period so that neither is lost through the process. When completed and there is a remaining time period, the opening FORTRAN routine is prompted and the total cycle begins again. This processing flow through the FORTRAN routines is shown in figure 9. The SLAM processing flow is depicted in a later section.

6.6 OUTPUT REPORTS

The output file from the CRC/RPLCO model is the MODREQAST.TBL modified by the addition of two columns. The first column is the number of requirements satisfied and is equal to the sum of the second column (assets used) for each branch per time period. Output reports from the CRC model may be view by using either the VI editor on the Sun or Dbase III Plus on a standard PC in a LAN configuration with the workstation or in the Sun DOS window program as described in section 9. The system was designed to have the output programs translated to Dbase III formats, thereby allowing the user to manipulate the data as desired.

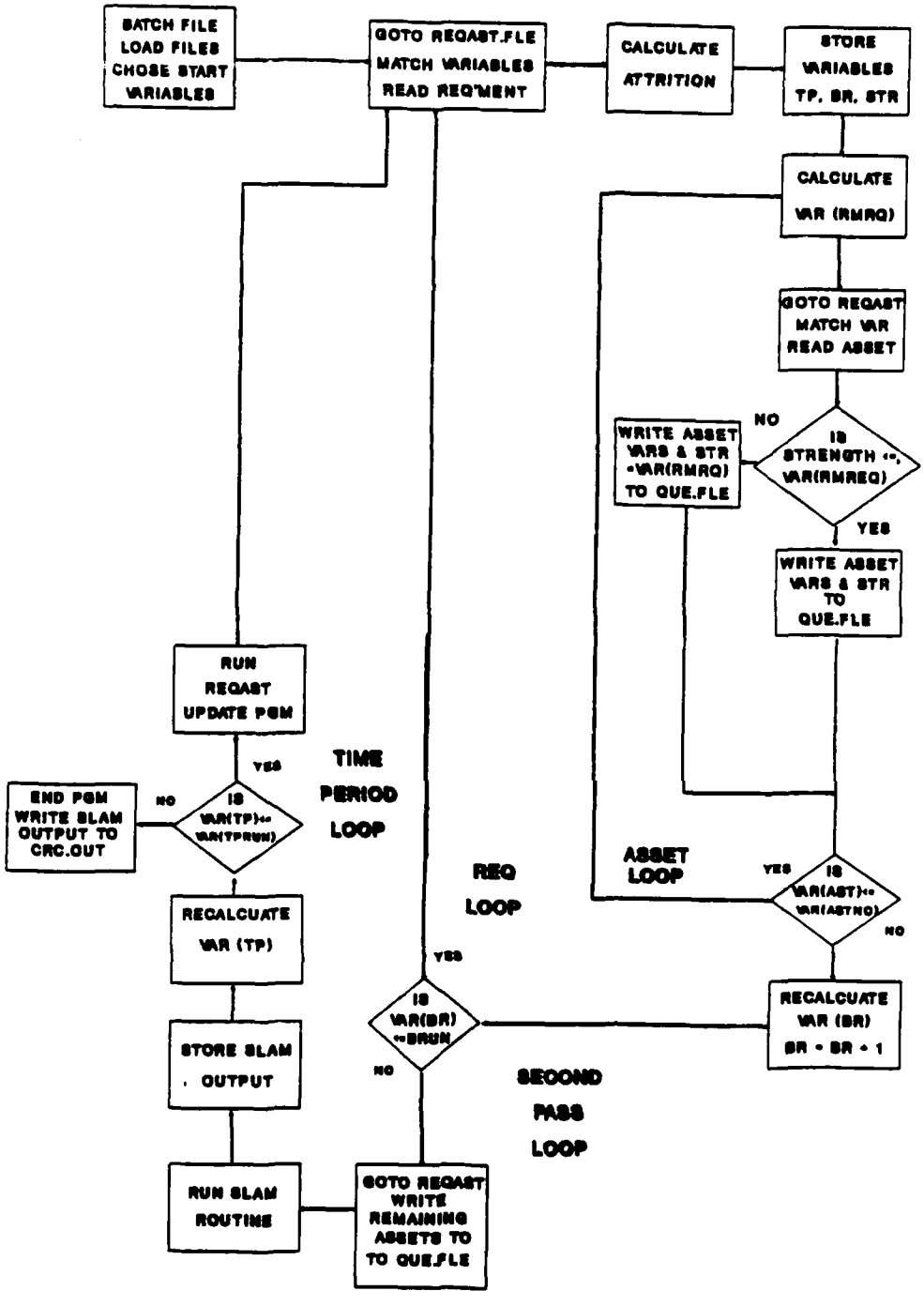


FIGURE 9: CRC FORTRAN PROCESSING

6.7 CRC/RPLBN MODEL--GENERAL FORTRAN PROGRAMS

```
************************************************************************
*     Program Name:     CRCRUN                          Date:
*                                                             06-06-1990
*  File Name:           CRC.FOR
*
*  Programmer:          John A. Tenshaw, SAIC, 703-734-5584
*                       Beth A. White Wilson, SAIC, 703-749-8771
*
*  Description:  Reads output file:  MODRQAST.OUT and queues in all
*                assets associated with the entered requirment for
*                 n - number of time periods and branchs.
*  Input:         MODRQAST.OUT  / MODRQAST.TMP (Temp file)
*
*  Output:        CRC.OUT
*                 RPL.OUT     Blanks filled with VAR
*                 CRCUSR.OUT  (requirement input)
*
************************************************************************
*  Modifications:  (STATUS: P - PROPOSED; R - REQUIRED; C - COMPLETED)
*  Number Status  Date:       Description:            Initials
*
*     01     C     12-18-90  Modified subroutine DROPLINE  BAW
*                            and UPDATEFILE.
*     02     C     01-30-91  Added system call statements  BAW
*                            to call SLAM for execution
*                            CRC processing.
*
************************************************************************

                  PROGRAM CRCRUN

*     Global Variables

      DIMENSION CRCTRANS(18,67,7,8),CBGTRANS(18,67,7)

      CHARACTER*1 UNPT(55),RQCHR(40),SEXX
      CHARACTER*24 fdate

      CHARACTER RDRESP*3, SREQ*3, IFR*3, ROM*3, VBRR*3 CHARACTER TYP*3, XF1*6,
      ORGSTR*6, NEWSTR*6,CURNTP*2,STARTP*2 CHARACTER TP*2, XTEND*4, CATBRG*5,
      TPRI*9,  XF2*10,  ENDTP*2  CHARACTER  XTND*21,  FLNAM*31,  RACHR*40,
      USRPT*55,MAXTP*2    CHARACTER    HEAD0*59,    HEAD1*55,
      HEAD2*58,STARTBR*2,ENDBR*2
*     CHARACTER LINE1*64,LINE2*41

      REAL RATTR,ATRFAC,CRC1TIM,CRC2TIM,CRC3TIM,CRC4TIM,CRC5TIM,
     &CRC6TIM,CRC7TIM,CRC8TIM,CRC1DLY,CRC2DLY,CRC3DLY,CRC4DLY,
     &CRC5DLY,CRC6DLY,CRC7DLY,CRC8DLY,C1AVGTIM,C2AVGTIM,C3AVGTIM,
     &C4AVGTIM,C5AVGTIM,C6AVGTIM,C7AVGTIM,C8AVGTIM,C1AVGDLY,
     &C2AVGDLY,C3AVGDLY,C4AVGDLY,C5AVGDLY,C6AVGDLY,C7AVGDLY,
```

```
     &C8AVGDLY

      INTEGER ASETSU,ASTCNT,USR1,USR2,CRCTRANS,CBGTRANS,CRC1CNT,

     &CRC2CNT,CRC3CNT,CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT
      LOGICAL THERE

      COMMON/CRARY/CRCTRANS,CBGTRANS,CRC1CNT,CRC2CNT,CRC3CNT,CRC4CNT,
     &CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT,CRC1TIM,CRC2TIM,CRC3TIM,CRC4TIM,
     &CRC5TIM,CRC6TIM,CRC7TIM,CRC8TIM,CRC1DLY,CRC2DLY,CRC3DLY,CRC4DLY,
     &CRC5DLY,CRC6DLY,CRC7DLY,CRC8DLY,C1AVGTIM,C2AVGTIM,C3AVGTIM,
     &C4AVGTIM,C5AVGTIM,C6AVGTIM,C7AVGTIM,C8AVGTIM,C1AVGDLY,C2AVGDLY,
     &C3AVGDLY,C4AVGDLY,C5AVGDLY,C6AVGDLY,C7AVGDLY,C8AVGDLY
      EQUIVALENCE (UNPT(1),USRPT)
      EQUIVALENCE (RQCHR(1),RACHR)

*     Initialize Variables
      CURNTP =  00'
      ENDTP = '00,
      STARTBR = '00'
      ENDBR = '00,
      ASTCNT = 0

      DO 3 I=1,18
        DO 4 J=1,67
           DO 5 K=1,7
              CBGTRANS(I,J,K)=0
             DO 7 L=1,8
               CRCTRANS(I,J,K,L)=0
  7          CONTINUE
  5        CONTINUE
  4     CONTINUE
  3   CONTINUE

*           Begin Menu Screen
      WRITE(6,10)
 10   FORMAT(/////20X, **********************************',
     &/20X,'**********************************',//20X,
     &'           WARPAM CRC MODEL             ',//20X,
     &'**********************************',,/20X,
     &,**********************************',///////20X,
     &,THE FOLLOWING FILES ARE NEEDED:',/30X,
     &'MODRQAST.OUT',//////////)

      PAUSE

      WRITE(6,11)
 11   FORMAT(/////////////////////////////////////////)

*     Checks to see if input and output files exist.  If input files
*     does not exist; an error message is written and the program is
*     terminated. If output file exists; the old output file is deleted.
```

```
*     If output file:  CRCUSR.OUT  does not exist, the new user inputs
*     will be appended to the CRCUSR.OUT file and displayed at the
*     screen.

      INQUIRE(FILE=,/home/warpam/iofiles/MODRQAST.OUT',EXIST=THERE)
       IF (.NOT.THERE)THEN
          WRITE(6,*)' ERROR - MODRQAST.OUT does not exist.'
          GOTO 999

      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/MODRQAST.TMP',EXIST=THERE)
      IF (THERE)THEN
         OPEN(80,FILE='/home/warpam/iofiles/MODRQAST.TMP',STATUS='OLD')
         CLOSE(80,STATUS='DELETE,)
      ENDIF

      INQUIRE(FILE=,/home/warpam/iofiles/CRCUSR.OUT',EXIST=THERE)
      IF (THERE)THEN
        WRITE(6,12)
 12     FORMAT(/5X,'The CRCUSR.OUT files already exists.',/5X,
     &'The following screen shows the previous input values.',///)
        OPEN(81,FILE='/home/warpam/iofiles/CRCUSR.OUT',STATUS='OLD')
 13     READ(81,'(55(A1)) ,ERR=15,END=16)UNPT
        WRITE(6,14)UNPT
 14     FORMAT(55(A1))
        GOTO 13
 15     WRITE(6,*',' ERROR READING FILE:  CRCUSR.OUT,
 16     CLOSE(81,STATUS='KEEP,)
        OPEN(81,FILE='/home/warpam/iofiles/CRCUSR.OUT',ACCESS='APPEND',
     &STATUS='OLD')
      ELSE
        OPEN(81,FILE='/home/warpam/iofiles/CRCUSR.OUT',STATUS='NEW')
      ENDIF


*   Input Variable (Start Requirement).
*   The default requirement is [DEG].
      WRITE(6,17)
 17   FORMAT(//10X,,ENTER START REQUIREMENT,,/10X,
     &'REQUIREMENTS:  (MAX,DEG,AE1,AKO,ASW,CST,CSB)')
      SREQ = 'XXX'
      READ(*,*)RDRESP

      IF ((RDRESP.EQ.'MAX').OR.(RDRESP.EQ.'max'))SREQ = 'MAX'
      IF ((RDRESP.EQ.'DEG').OR.(RDRESP.EQ.'deg'))SREQ = 'DEG'
      IF ((RDRESP.EQ.'AE1').OR.(RDRESP.EQ.'ae1'))SREQ = 'AE1'
      IF ((RDRESP.EQ.'AKO').OR.(RDRESP.EQ.'ako'))SREQ = 'AKO'
      IF ((RDRESP.EQ.'ASW').OR.(RDRESP.EQ.'asw'))SREQ = 'ASW'
      IF ((RDRESP.EQ.'CST').OR.(RDRESP.EQ.'cst'))SREQ = 'CST'
      IF ((RDRESP.EQ.'CSB').OR.(RDRESP.EQ.'csb'))SREQ = 'CSB'
      IF (SREQ.EQ.,XXX')THEN
```

```
          SREQ = 'DEG'
          WRITE(6,18)
 18       FORMAT(/15X,'ERROR - INVALID REQUIREMENT',/15X,
     &    'DEFAULT START REQUIREMENT WILL BE USED:  SREQ = DEG')
        ENDIF

*    Input Variable (Start Time Period and End Time Period).

        STARTP = ,01'
        USR1 = 1

        WRITE(6,22)
 22     FORMAT(//10X,'ENTER END TIME PERIOD (1-18) )

        READ(*,*)USR2
        IF ((USR2.GT.0).AND.(USR2.LT.19).AND.(USR1.LE.USR2))THEN
          CALL INT2STR (USR2, ENDTP)
        ELSE
          ENDTP = '18'
          WRITE(6,23)
 23       FORMAT(/15X,'ERROR - INVALID END TIME PERIOD',/15X,
     &    ,DEFAULT END TIME PERIOD WILL BE USED:  ENDTP = 18')
        ENDIF


*    Input Variable (Start Branch and End Branch).
        WRITE(6,24)
 24     FORMAT(//10X,'ENTER START BRANCH (1-67),)
        READ(*,*)USR1
        IF ((USR1.GT.0).AND.(USR1.LT.68))THEN
          CALL INT2STR (USR1, STARTBR)
        ELSE
          STARTBR = '01'
          WRITE(6,25)
 25       FORMAT(/15X,'ERROR - INVALID START BRANCH NO.,,/15X,
     &    'DEFAULT START BRANCH NO. WILL BE USED:
        ENDIF STARTBR = 1')

        WRITE(6,26)
 26     FORMAT(//10X,'ENTER END BRANCH (1-67),)
        READ(*,*)USR2
        IF ((USR2.GT.0).AND.(USR2.LT.68).AND.(USR1.LE.USR2)) THEN
              CALL INT2STR (USR2, ENDBR)
        ELSE
           ENDBR = ,67'
           WRITE(6,27)
 27        FORMAT(/15X,'ERROR - INVALID END BRANCH NO.,,/15X,
     &     'DEFAULT END BRANCH NO. WILL BE USED: ENDBR = 67')
        ENDIF

*       Input Replacement Facility.
 28     WRITE(6,29)
```

```
 29   FORMAT(//10X,,ENTER REPLACEMENT FACILITY (CRC OR RPL),)
      IFR = ,XXX'
      READ(*,*)RDRESP

      IF ((RDRESP.EQ.'CRC,).OR.(RDRESP.EQ.,crc,))IFR = ,CRC,
      IF ((RDRESP.EQ.'RPL,).OR.(RDRESP.EQ.'rpl'))IFR = ,RPL'
      IF (IFR.EQ.,XXX')THEN
         WRITE(6,30)
 30      FORMAT(/10X,,ERROR:  INVALID ENTRY')
         GOTO 28
      ENDIF

*  Declaration of variable to satisfy requirement
      ROM = 'REQ'

*  Input Variable Attrition.
      WRITE(6,35)
 35   FORMAT(//10X,'ENTER ATTRITION FACTOR',/10X,
     &'(PERCENT WILL BE TRANSLATED TO RATE IN DECIMAL FORM)',
     &/10X,,(NORMAL ATTRITION IS LESS THAN 4%)')
      READ(*,*)RATTR
      IF ((RATTR.GT.0.0).AND.(RATTR.LT.1.0))ATRFAC = RATTR
      IF ((RATTR.GT.0.0).AND.(RATTR.LT.101.0))ATRFAC = (RATTR)/100.0

*   Write user inputs to screen and file:  CRCUSR.OUT
      WRITE(81,36)STARTP,ENDTP,SREQ,ATRFAC,STARTBR,ENDBR,IRF,ROM,fdate()
 36   FORMAT(2X,A2,2X,A2,2X,A3,2X,F4.2,2X,A2,2X,A2,3X,A3,3X,A3,3X,A24)
      CLOSE(81,STATUS='KEEP,)

      WRITE(6,37)fdate(),STARTP,ENDTP,SREQ,ATRFAC,STARTBR,ENDBR,IFR,ROM
37    FORMAT(//10X,,USER INPUT(S): ',//12X,A24,//12X,
     &'START TIME PERIOD ---> ',A2,/12X,
     &'END TIME PERIOD   ---> ',A2,/12X,
     &'START REQUIREMENT ---> ',A3,/12X,
     &'ATTRITION FACTOR  ---> ',F4.2,/12X,
     &'START BRANCH NO.  ---> ',A2,/12X,
     &'END BRANCH NO.    ---> ',A2,/12X,
     &'REPLMNT FACILITY  ---> ',A3,/12X,
     &'REQ or MAX        ---> ',A3,////)

*   Initialize CURNTP [current time period].
      CURNTP = STARTP

*     Checks to see if output file exists.  If output file does exist,
*     the old output file is deleted.  The name is created by
*     concatenatin input facility requirement plus the start requirement
*     and '.OUT'.  i.e.  CRCDEG.OUT, RPLDEG.OUT
*     Note:  The,file is created and the proper headin is appended.
      XTEND =  .OUT'
      XTND = '/home/warpam/iofiles/'
      XF1 = IFR // SREQ
      XF2 = XF1 // XTEND
```

```
      FLNAM = XTND // XF2

*  Create parameters for the SYSTEM calls at the end of the program
       LINE1 = 'dos2unix ,// FLNAM // ' ' // XTND // XF1 // '.DOS'
*      LINE2 = 'chmod 777 // XTND // XF1 // ,.DOS'

      INQUIRE(FILE=FLNAM,EXIST=THERE)
      IF (THERE)THEN
         OPEN(78,FILE=FLNAM,STATUS='OLD')
         CLOSE(78,STATUS='DELETE')
      ENDIF

*  Header Information
      HEADO=' CAT/BR    REQ/  TIME PER/  REQ',T/  REQ,,T    ASSET
     &S'
      HEAD1=' GRADE  S TYPE  PRIORITY  ASSETS  FILLED  USED'
      HEAD2='
     &'
*           BXXXXXBBBBXBBBBXXXBBBXXXXXXXXXBBBXXXXXXBBBXXXXXXBBBXXXXXX
      OPEN(78,FILE=FLNAM,STATUS='NEW')
      WRITE(78,38)HEADO,HEAD1,HEAD2
 38   FORMAT(1X,A57,/1X,A55,/1X,A58)
      CLOSE(78,STATUS='KEEP,)

*   Backing up original file:  MODRQAST.OUT.
*   MODRQAST.OUT is copied into MODRQAST.TMP which will be read.
*   Backup file will contain only time periods from start time period
*   to end time period + 1 and maximum branches [ENDBR].
      WRITE(6,39)
39    FORMAT(5X,,PLEASE WAIT - Backing up MODRQAST.OUT')

      OPEN(82,FILE='/home/warpam/iofiles/MODRQAST.OUT',STATUS=,OLD')
      OPEN(80,FILE=,/home/warpam/iofiles/MODRQAST.TMP',STATUS='NEW')

      MAXTP = ENDTP
      CALL MODIFYTP (MAXTP)

*  Read MODRQAST.OUT header info.
      READ(82,'(3(A1)) ,ERR=42,END=43)SEXX
      READ(82,'(3(A1))',ERR=42,END=43)SEXX
      READ(82,,(3(A1))',ERR=42,END=43)SEXX

 40   READ(82,'(40(A1))',ERR=42,END=43)RQCHR

      ASETSU = 0
      CATBRG = RACHR(3:7)
      SEXX = RACHR(12:12)
      TYP = RACHR(17:19)
      TPR1 = RACHR(23:31)
      NEWSTR = RACHR(35:40)
      ORGSTR = '   0'
      TP = RACHR(23:24)
```

```
      VBRR = RACHR(25:27)

      IF ((TP.LE.MAXTP).AND.(VBRR.LE.ENDBR))THEN
        IF ((TYP.EQ.SREQ).OR.(TYP.EQ.'TRD').OR.(TYP.EQ.,THS,)
     &.OR.(TYP.EQ.'SEL').OR.(TYP.EQ. IRR,).OR.(TYP.EQ.'STY')
     &.OR.(TYP.EQ.,RET').OR.(TYP.EQ.,TRN'))THEN
          WRITE(80,41)CATBRG,SEXX,TYP,TPRI,NEWSTR,ORGSTR,ASETSU
 41       FORMAT(2X,A5,4X,A1,4X,A3,3X,A9,3X,A6,3X,A6,3X,16)
          GOTO 40
        ENDIF
      ENDIF
      GOTO 40
 42   WRITE(6,*)' ERROR READING FILE:  MODRQAST.OUT'
 43   CLOSE(82,STATUS='KEEP')
      CLOSE(80,STATUS='KEEP')

      WRITE(6,49)
 49   FORMAT(/////////////////////////////////////////)

*   Checks to see if ASETS.TMP or ASETS2.TMP (assets file) exists.
 44   INQUIRE(FILE='/home/warpam/iofiles/ASETS.TMP',EXIST=THERE)
      IF (THERE)THEN
         OPEN(83,FILE='/home/warpam/iofiles/ASETS.TMP',STATUS='OLD')
         CLOSE(83,STATUS='DELETE,)
      ENDIF
      INQUIRE(FILE=,/home/warpam/iofiles/ASETS2.TMP',EXIST=THERE)
      IF (THERE)THEN
           OPEN(31,FILE='/home/warpam/iofiles/ASETS2.TMP',STATUS='OLD')
           CLOSE(31,STATUS='DELETE,)
      ENDIF

      WRITE(6,50)
 50   FORMAT(//),
      WRITE(6,*)  PROCESSING TIME PERIOD ,,CURNTP

*   Initialization of computed variables.
      CRC1CNT = 0
      CRC2CNT = 0
      CRC3CNT = 0
      CRC4CNT = 0
      CRC5CNT = 0
      CRC6CNT = 0
      CRC7CNT = 0
      CRC8CNT = 0
      CRC1TIM = 0.0
      CRC2TIM = 0.0
      CRC3TIM = 0.0
      CRC4TIM = 0.0
      CRC5TIM = 0.0
      CRC6TIM = 0.0
      CRC7TIM = 0.0
      CRC8TIM = 0.0
```

```
      C1RC1DLY = 0.0
      C1RC2DLY = 0.0
      C1RC3DLY = 0.0
      C1RC4DLY = 0.0
      C1RC5DLY = 0.0
      C1RC6DLY = 0.0
      C1RC7DLY = 0.0
      C1RC8DLY = 0.0
      C1AVGTIM = 0.0
      C2AVGTIM = 0.0
      C3AVGTIM = 0.0
      C4AVGTIM = 0.0
      C5AVGTIM = 0.0
      C6AVGTIM = 0.0
      C7AVGTIM = 0.0
      C8AVGTIM = 0.0
      C1AVGDLY = 0.0
      C2AVGDLY = 0.0
      C3AVGDLY = 0.0
      C4AVGDLY = 0.0
      C5AVGDLY = 0.0
      C6AVGDLY = 0.0
      C7AVGDLY = 0.0
      C8AVGDLY = 0.0

*  Subroutine CRCAST generates a ASETS.TMP (temp file) with
*  all the assets for the current time for n-number of branches.

      CALL CRCAST(SREQ,CURNTP,ASTCNT,ATRFAC,IFR,ROM,STARTBR,ENDBR)

*  Verification of ASETS.TMP file.  If there were no assets found
*  and written to the file for that time period, then you go to
*  the next time period.

      IF (ASTCNT .EQ. 0) GOTO 998

*  This System Call statement calls slam for execution of slam
* CRC processing and produces n-number of crc#.out/rpl#.out
* files.  i.e. crc1.out-crc8.out/rpl1.out-rpl8.out

      IF (IFR.EQ.'CRC')THEN
         IF (CURNTP.EQ.'01')CALL SYSTEM("rslamb crc1 crcexe")
         IF (CURNTP.EQ.'02')CALL SYSTEM("rslamb crc2 crcexe")
         IF (CURNTP.EQ.'03')CALL SYSTEM("rslamb crc3 crcexe")
         IF (CURNTP.EQ.'04')CALL SYSTEM("rslamb crc4 crcexe")
         IF (CURNTP.EQ.'05')CALL SYSTEM("rslamb crc5 crcexe")
         IF (CURNTP.EQ.'06')CALL SYSTEM("rslamb crc6 crcexe")
         IF (CURNTP.EQ.'07')CALL SYSTEM("rslamb crc7 crcexe")
         IF (CURNTP.EQ.'08')CALL SYSTEM("rslamb crc8 crcexe")
         IF (CURNTP.EQ.'09')CALL SYSTEM("rslamb crc9 crcexe")
         IF (CURNTP.EQ.'10')CALL SYSTEM("rslamb crc10 crcexe")
         IF (CURNTP.EQ.'11')CALL SYSTEM("rslamb crc11 crcexe")
```

```
            IF (CURNTP.EQ.'12')CALL SYSTEM("rslamb crc12 crcexe")
            IF (CURNTP.EQ.'13')CALL SYSTEM("rslamb crc13 crcexe")
            IF (CURNTP.EQ.'14')CALL SYSTEM("rslamb crc14 crcexe")
            IF (CURNTP.EQ.'15')CALL SYSTEM("rslamb crc15 crcexe")
            IF (CURNTP.EQ.'16')CALL SYSTEM("rslamb crc16 crcexe")
            IF (CURNTP.EQ.'17')CALL SYSTEM("rslamb crc17 crcexe")
            IF (CURNTP.EQ.'18')CALL SYSTEM("rslamb crc18 crcexe")
            GOTO 997
         ELSE
            IF (CURNTP.EQ.'01')CALL SYSTEM("rslamb rp11 rplexe")
            IF (CURNTP.EQ.'02')CALL SYSTEM("rslamb rp12 rplexe")
            IF (CURNTP.EQ.'03')CALL SYSTEM("rslamb rp13 rplexe")
            IF (CURNTP.EQ.'04')CALL SYSTEM("rslamb rp14 rplexe")
            IF (CURNTP.EQ.'05')CALL SYSTEM("rslamb rp15 rplexe")
            IF (CURNTP.EQ.'06')CALL SYSTEM("rslamb rp16 rplexe")
            IF (CURNTP.EQ.'07')CALL SYSTEM("rslamb rp17 rplexe")
            IF (CURNTP.EQ.'08')CALL SYSTEM("rslamb rp18 rplexe")
            IF (CURNTP.EQ.'09')CALL SYSTEM("rslamb rp19 rplexe")
            IF (CURNTP.EQ.'10')CALL SYSTEM("rslamb rp110 rplexe")
            IF (CURNTP.EQ.'11')CALL SYSTEM("rslamb rp111 rplexe")
            IF (CURNTP.EQ.'12')CALL SYSTEM("rslamb rp112 rplexe")
            IF (CURNTP.EQ.'13')CALL SYSTEM("rslamb rp113 rplexe")
            IF (CURNTP.EQ.'14')CALL SYSTEM("rslamb rp114 rplexe")
            IF (CURNTP.EQ.'15')CALL SYSTEM("rslamb rp115 rplexe")
            IF (CURNTP.EQ.'16')CALL SYSTEM("rslamb rp116 rplexe")
            IF (CURNTP.EQ.'17')CALL SYSTEM("rslamb rp117 rplexe")
            IF (CURNTP.EQ.'18')CALL SYSTEM("rslamb rp118 rplexe")
            GOTO 997
         ENDIF
*
*   The IJ loop is a program execution time delay operator
*   which allows each crc#.out/rpl#.out to be produced before
*   a new SLAM call.

 997  DO 600 IJ = 1,900000000
 600  CONTINUE

*
*  Call subroutine UPDATEFILE which updates the ASETS.TMP file
*  by creating a temporary file to show which assets were used.

      CALL UPDATEFILE (SREQ, MAXTP)

*     Increment time period and then verify if current time is
*     greater than or less than ENDTP [end time period].  If
*     end time period is reached, the final output file is created
*     [CRC/RPL---.OUT].  The IJ loop is a program execution time
*    delay operator which allows each crc#.out/rpl#.out to be
*     produced before a new SLAM call.

 998  CALL MODIFYTP(CURNTP)
      IF (CURNTP .LE. ENDTP) THEN
```

```
        GOTO 44
      ELSE
        CALL CROUT (FLNAM,SREQ)
      ENDIF

*  Copy the UNIX output file into a DOS format file (.DOS; LINE1) and
*  remove all protections from that file (LINE2).
*     CALL SYSTEM(LINE1)
*     CALL SYSTEM(LINE2)

*    CALL CRCSTATS (IFR,CURNTP,XTEND,XTND)
 999  WRITE(6,45)
  45  FORMAT(////5X,,**** CRC MODEL COMPLETED PROCESSING ****') STOP
      END
```

```
                    SUBROUTINES - in alphabetical order
*************************************************************************

*************************************************************************
*
*  Subroutine:    CRCAST
*
* Description:  CRC model dumps assets to a file based on the user
*               input requirement/type, input replacement facility,
*               and the variable to satisfy the requirement or max.
*               time and transportation.
*
*  Input:         MODRQAST.TMP
*
*  Output:        ASETS.TMP
*
*************************************************************************
*  Modifications:  (STATUS: P - PROPOSED; R - REQUIRED; C - COMPLETED)
*  Number Status  Date:       Description:                Initials
*
*
*
*************************************************************************

      SUBROUTINE CRCAST (RQ,CURTP,TOTAL,ATTRIT,REP,RM,STARTB,ENDB)

*  Global Variables
      CHARACTER RQ*3,CURTP*2,REP*3,RM*3,ARR(4000)*18,STARTB*2,ENDB*2 CHARACTER
      CATBRG*5,SX*1,RTYPE*3,TPPRI*9,OLDBR*3

      REAL ATTRIT

      INTEGER TOTAL,DEGTOT,ASTTOT,NEWTOT,STR,I1,I2,OLDSTR,INDEX
      INTEGER OVER, OVRNUM(4000)

      LOGICAL THERE

      TOTLSTR = 0
      TOTAL = 0
      INDEX = 0
      OLDBR = ,XXX'

      OPEN(80,FILE=,/home/warpam/iofiles/MODRQAST.TMP',STATUS='OLD,)
      OPEN(83,FILE='/home/warpam/iofiles/ASETS.TMP',STATUS='NEW')

*  Read MODRQAST.TMP file
 400  READ(80,410,END=500)CATBRG,SX,RTYPE,TPPRI,STR,I1,I2
 410  FORMAT (2X,A5,4X,A1,4X,A3,3X,A9,3X,I6,3X,I6,3X,I6)

*  Go to current TP
      IF (TPPRI(1:2)  .EQ. CURTP .AND.
     $    TPPRI(4:5) .GE. STARTB .AND.
```

```
     $    TPPRI(4:5) .LE. ENDB) THEN
*  Input is a requirement line
        IF (RTYPE .EQ. RQ) THEN
          OLDSTR = STR
          DEGTOT = NINT (REAL(STR)/REAL(1.0 - ATTRIT))
          OLDBR(1:3) = TPPRI(3:5)
          ASTTOT = 0
        ELSE IF(TPPRI(3:5) .EQ. OLDBR .AND.
     $          ASTTOT .LT. DEGTOT .AND.
     $          RTYPE .EQ. 'TRD' .AND.
     $          REP .EQ. ,CRC') THEN
          TOTAL = TOTAL + 1
          DEGTOT = NINT (REAL(OLDSTR - STR)/REAL(1.0 - ATTRIT))
          IF (DEGTOT .LT. 0) THEN
            DEGTOT = 0
          ENDIF
        ELSE IF (TPPRI(3:5) .EQ. OLDBR .AND.
     $           ASTTOT .LT. DEGTOT .AND.
     $           ((REP .EQ. 'CRC, .AND.
     $             RTYPE .NE. 'TRD') .OR.
     $             REP.EQ. ,RPL')) THEN
            TOTAL = TOTAL + 1
            ASTTOT = ASTTOT + STR
            IF (ASTTOT .LE. DEGTOT) THEN
*             WRITE (6,430)CATBRG,SX,RTYPE,TPPRI(1:2),TPPRI(3:5),
*    $                     TPPRI(6:9),STR
              WRITE (83,430)CATBRG,SX,RTYPE,TPPRI(1:2),TPPRI(3:5),
     $                      TPPRI(6:9),STR
            ELSE
              NEWTOT = DEGTOT - (ASTTOT - STR)
*             WRITE (6,430)CATBRG,SX,RTYPE,TPPRI(1:2),TPPRI(3:5),
*    $                     CPPRI(6:9),NEWTOT
              WRITE (83,430)CATBRG,SX,RTYPE,TPPRI(1:2),TPPRI(3:5),
     $                      TPPRI(6:9),NEWTOT
              IF (RM .EQ. 'MAX,) THEN
                OVER = STR - NEWTOT
                INDEX = INDEX + 1
                ARR(INDEX)(1:5) = CATBRG
                ARR(INDEX)(6:6) = SX
                ARR(INDEX)(7:9) = RTYPE
                ARR(INDEX)(10:11) = TPPRI
                ARR(INDEX)(12:14) = TPPRI
                ARR(INDEX)(15:18) = TPPRI
                OVRNUM(INDEX) = OVER
              ENDIF
            ENDIF
          ELSE IF (((REP .EQ. ,CRC, .AND.
     $             RTYPE .NE. ,TRD') .OR.
     $             REP .EQ. 'RPL,) .AND.
     $           RM .EQ. ,MAX') THEN
              INDEX = INDEX + 1
              ARR(INDEX)(1:5) = CATBRG
```

```
              ARR(INDEX)(6:6) = SX
              ARR(INDEX)(7:9) = RTYPE
              ARR(INDEX)(10:11) = TPPRI
              ARR(INDEX)(12:14) = TPPRI
              ARR(INDEX)(15:18) = TPPRI
              OVRNUM(INDEX) = STR
            ENDIF
            GOTO 400

*  Input lines TP is less than the current TP, so read in another line
      ELSE IF (TPPRI(1:2) .LE. CURTP) THEN
        GOTO 400
*  Input lines TP is greater than the current TP, so stop and output
*  ARR contents to file ASETS.TMP
      ELSE
        IF (RM .EQ. 'MAX') THEN
          DO 420 OVER = 1, INDEX
              WRITE (83,430)ARR(OVER)(1:5),
     $            ARR(OVER)(6:6),ARR(OVER)(7:9),
     $            ARR(OVER)(10:11),ARR(OVER)(12:14),
     $            ARR(OVER)(15:18),OVRNUM(OVER)
 420      CONTINUE
      ENDIF
      GOTO 500
    ENDIF

430  FORMAT (2X,A5,4X,A1,4X,A3,3X,A2,3X,A3,3X,A4,3X,I6)

500  CLOSE(80,STATUS='KEEP,)
     CLOSE(83,STATUS='KEEP')

*  Maximizes the number of assets allowed to 75,000.
*  a temporary file, BTMP.TMP is created to store the
*  maximum number fo assets (75,000).  Then the BTMP.TMP
*  file overwrites the ASETS.TMP.

      INQUIRE(FILE='/home/warpam/iofiles/BTMP.TMP',STATUS='OLD')
      IF (THERE)THEN
         OPEN(183,FILE='/home/warpam/iofiles/BTMP.TMP ,STATUS='OLD')
         CLOSE(183,STATUS='DELETE')
      ENDIF

      OPEN(83,FILE='home/warpam/iofiles/ASETS.TMP,STATUS='OLD')
      OPEN(183,FILE='home/warpam/iofiles/BTMP.TMP,STATUS='NEW')

 180  READ (83,184,END=186)CATBRG,SX,RTYPE,TPPRI(1:2),TPPRI(3:5)
     &TPPRI(6:9), STR
 184  FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,3X,A3,3X,A4,3X,I6)

      TOTLSTR = TOTLSTR + STR
      IF  (TOTLSTR.GT.75000)GOTO 186
      IF (TOTLSTR.LE.75000)THEN
```

```
      WRITE (183,184)CATBRG,SX,RTYPE,TPPRI(1:2),TPPRI(3:5),
     $TPPRI(6:9),STR
         GOTO 180
      ENDIF


186   CLOSE(83,STATUS='DELETE')
      CLOSE(183,STATUS='KEEP')

      CALL SYSTEM("cp /home/warpam/iofiles/BTMP.TMP /home/warpam/iofiles
     &/ASETS.TMP")

      OPEN(31,FILE='/home/warpam/iofiles/ASETS2.TMP',STATUS='NEW')
      CLOSE(31,STATUS='KEEP')

      RETURN
      END
```

```
*************************************************************************
*
*  Subroutine:          CROUT
*
* Description:    Writes the final results to the CRC/RPL output.
*
*  Input:          MODRQAST.TMP
*
*  Output:         CRC/RPL___.OUT
*
*************************************************************************
* Modifications:  (STATUS: P - PROPOSED; R - REQUIRED; C - COMPLETED)
*
*  Number Status  Date:       Description:                    Initials
*
*
*
*************************************************************************

                  SUBROUTINE CROUT (FILENM,REQ)

*  Global Variables
      CHARACTER FILENM*31,REQ*3,CAT*5,SEX*1,TYPE*3,TYPPRI*9
      INTEGER INT1,INT2,INT3

*  Writes final results to file:  CRC/RPL---.OUT.
      OPEN(78,FILE=FILENM,ACCESS='APPEND',STATUS='OLD')
      OPEN(85,FILE=,/home/warpam/iofiles/MODRQAST.TMP',STATUS='OLD')

 600  READ(85,610,ERR=699,END=700)CAT,SEX,TYPE,TYPPRI,INT1,INT2,INT3
 610  FORMAT (2X,A5,4X,A1,4X,A3,3X,A9,3X,I6,3X,I6,3X,I6)
      IF (TYPE .EQ. REQ) THEN
        WRITE (78,620)CAT,SEX,TYPE,TYPPRI,INT1,INT2,'
      ELSE
        WRITE (78,630)CAT,SEX,TYPE,TYPPRI,INT1,'      ',INT3
      ENDIF
      GOTO 600

 620  FORMAT (2X,A5,4X,A1,4X,A3,3X,A9,3X,I6,3X,I6,3X,A6)
 630  FORMAT (2X,A5,4X,A1,4X,A3,3X,A9,3X,I6,3X,A6,3X,I6)

 699  WRITE(6,*''ERROR READING FILE:  MODRQAST.TMP'
 700  CLOSE(85,STATUS='KEEP,)
      CLOSE(78, STATUS = ,KEEP')

      RETURN
      END
```

```
************************************************************************
*
*  Subroutine:    DROPLINE
*
* Description:  This subroutine looks for a certain TP/BR/PRIORITY
*               string within th TP + 1 data of the MODRQAST.TMP
*               file. If found, it updates the assets/req. number;
*               otherwise it inserts it accordingly into the file.
*
*  Input:         MODRQAST.TMP file array and STR arrays
*
*  Output:        updated MODRQAST.TMP file array and STR arrays
*
************************************************************************
* Modifications:  (STATUS: P - PROPOSED; R - REQUIRED; C - COMPLETED)
*
*  Number Status  Date:             Description:            Initials
*
*     01    C           12-18-90    Modified subroutine DROPLINE  BAW
*
************************************************************************

      SUBROUTINE DROPLINE(STRNG,OUT2,STR2,STR3,STR4,LOOP,NEWTP,DELTA)

      CHARACTER OUT2(150000)*18,STRNG*18,NEWTP*2
      INTEGER STR2(150000),STR3(150000),STR4(150000)
      INTEGER SETT,LOOP,DELTA

      SETT = 0
 100  SETT = SETT + 1

      IF (SETT.GT.LOOP)GOTO 400

      IF  (OUT2 (SETT) (10 :11).NE.NEWTP)GOTO  100

      IF (OUT2(SETT)(10:11).EQ.NEWTP)THEN

* Modify quantity for NEWTP.

      IF (STRNG(12:18).GT.OUT2(SETT)(12:18))GOTO 100

      IF (STRNG(12:18).EQ.OUT2(SETT)(12:18))THEN
         STR2(SETT) = STR2(SETT) + DELTA
         GOTO 400
      ENDIF

* Inserting element for NEWTP.

      IF (STRNG(12:18).LT.OUT2(SETT)(12:18))THEN
         DO  150  I = LOOP,SETT,-1
         OUT2 (I+1) (1: 18) = OUT2 (I) (1 : 18)
         STR2(I+1) = STR2 (1)
```

```
 11   READ(31,12,ERR=17,END=18)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
 12   FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,A3,A4,3X,16)

      NTP=0
      NBRC=0
      NTYPE=0

      DO 13 JJ=1,2
        II=ICHAR(TP(JJ:JJ))
        NUM=(79-(127-II))
        IF(JJ.EQ.1)NUM=NUM*10
        IF(JJ.EQ.2)NUM=NUM*1
        NTP=NTP+NUM
 13   CONTINUE

      DO 14 KK=1,3
        IF(KK.EQ.1)GOTO 14
        I1=ICHAR(BRC(KK:KK))
        NUM=(79-(127-I1))
        IF(KK.EQ.2)NUM=NUM*10
        IF(KK.EQ.3)NUM=NUM*1
        BRC=NBRC+NUM
14    CONTINUE

      DO 15 LL=1,2
        IF(LL.EQ.1)GOTO 15
        I1=ICHAR(TYPE(LL:LL))
        NUM=(79-(127-I1))
        IF(LL.EQ.2)NTYPE=NUM
 15    CONTINUE

*     WRITE(6,16)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,
*    &CBGTRANS(NTP,NBRC,NTYPE)
      WRITE(32,16)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,
     &CBGTRANS(NTP,NBRC,NTYPE)
 16   FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,A3,A4,3X,16,3X,16)

      GOTO 11

17    WRITE(6,*)'ERROR READING FILE:  ASETS2.TMP'
18    CLOSE(31,STATUS='KEEP')
      CLOSE(32,STATUS='KEEP')

*  Calculate averave processing time and average delay
*  for each CRC (CRC1 thru CRC8).
      C1AVGTIM = CRC1TIM/CRC1CNT
      C1AVGDLY = CRC1DLY/CRC1CNT

      C2AVGTIM = CRC2TIM/CRC2CNT
      C2AVGDLY = CRC2DLY/CRC2CNT

      C3AVGTIM = CRC3TIM/CRC3CNT
```

```
C*************************************************************************
C
C     Subroutine:  OTPUT
C
C     Description: Generates an output file called TRSLT.TMP.
C
C*************************************************************************

      SUBROUTINE OTPUT

      DIMENSION    CRCTRANS(18,67,7,8),CBGTRANS(18,67,7)    1NCLUDE
      '/home/warpam/PARAM.1NC'

      INTEGER NDEX,STR,NTP,NBRC,NTYPE,CRCTRANS,CBGTRANS,
     &CRC1CNT,CRC2CNT,CRC3CNT,CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,
     &CRC8CNT

      REAL CRC1T1M,CRC2TIM,CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,
     &CRC7T1M,CRC8T1M,CRC1DLY,CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY,
     &CRC6DLY,CRC7DLY,CRC8DLY,C1AVGT1M,C2AVGT1M,C3AVGT1M,C4AVGT1M,
     &C5AVGT1M,C6AVGT1M,C7AVGTIM,C8AVGTIM,C1AVGDLY,C2AVGDLY,
     &C3AVGDLY,C4AVGDLY,C5AVGDLY,C6AVGDLY,C7AVGDLY,C8AVGDLY

      CHARACTER CBG*5,SEX*1,ASETYPE*3,TP*2,BRC*3,TYPE*4

      COMMON/SCOM1/ATR1B(MATRB),DD(MEQT),DDL(MEQT),DTNOW,1I,
     1MFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, SS(MEQT),
     2SSL(MEQT),TNEXT,TNOW, XX(100)
      COMMON/UCOM1/CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,NDEX
      COMMON/CRARY/CRCTRANS,CBGTRANS,CRC1CNT,CRC2CNT,CRC3CNT,
      &CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT,CRC1T1M,CRC2T1M,
      &CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,CRC7TIM,CRC8TIM,CRC1DLY,
      &CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY,CRC6DLY,CRC7DLY,CRC8DLY,
      &C1AVGT1M,C2AVGT1M,C3AVGT1M,C4AVGT1M,C5AVGT1M,C6AVGTIM,
      &C7AVGTIM,C8AVGTIM,C1AVGDLY,C2AVGDLY,C3AVGDLY,C4AVGDLY,
      &C5AVGDLY,C6AVGDLY,C7AVGDLY,C8AVGDLY

      LOGICAL THERE

*  Checks to see if output file:  TRSLT.TMP exists.  1f the
*  file exist, then the old file is deleted and a new file
*  is then opened.

      INQUIRE(F1LE=,/home/warpam/iofiles/TRSLT.TMP,,EXIST=THERE)
      IF (THERE)THEN
        OPEN(32,FILE='/home/warpam/iofiles/TRSLT.TMP,,STATUS='OLD')
        CLOSE(32,STATUS='DELETE')
      ENDIF

      OPEN(32,FILE='/home/warpam/iofiles/TRSLT.TMP',STATUS='NEW')
      OPEN(31,F1LE='/home/warpam/iofiles/ASETS2.TMP',STATUS='OLD')
```

```
      CRC7CNT = CRC7CNT + 1
      CRC7TIM = CRC7TIM + XTIM
      CRC7DLY = CRC7DLY + XDLY
    ENDIF
    IF (NDEX.EQ.8)THEN
      CRC8CNT = CRC8CNT + 1
      CRC8TIM = CRC8TIM + XTIM
      CRC8DLY = CRC8DLY + XDLY
    ENDIF

    RETURN
    END
```

```
 9999  RETURN

*  Begins processing EVENT(I) a second time and stores shipped
*  persons into an array.

 2     XTP = ATRIB(4)
       XBRC= ATRIB(9)
       XTYPE=ATRIB(10)

       ITP = (NINT(XTP))
       IBRC =(NINT(XBRC))
       ITYPE=(NINT(XTYPE))

       NDEX=ATRIB(11)

       CRCTRANS(ITP,IBRC,ITYPE,NDEX)=CRCTRANS(ITP,IBRC,ITYPE,NDEX)+1
       CBGTRANS(ITP,IBRC,ITYPE)=CBGTRANS(ITP,IBRC,ITYPE)+1

       XTIM = ATRIB(7)
       XDLY = ATRIB(8)

       IF (NDEX.EQ.1)THEN
         CRC1CNT = CRC1CNT + 1
         CRC1TIM = CRC1TIM + XTIM
         CRC1DLY = CRC1DLY + XDLY
       ENDIF
       IF (NDEX.EQ.2)THEN
         CRC2CNT = CRC2CNT + 1
         CRC2TIM = CRC2TIM + XTIM
         CRC2DLY = CRC2DLY + XDLY
       ENDIF
       IF (NDEX.EQ.3)THEN
         CRC3CNT = CRC3CNT + 1
         CRC3TIM = CRC3TIM + XTIM
         CRC3DLY - CRC3DLY + XDLY
       ENDIF
       IF (NDEX.EQ.4)THEN
         CRC4CNT = CRC4CNT + 1
         CRC4TIM = CRC4TIM + XTIM
         CRC4DLY = CRC4DLY + XDLY
       ENDIF
       IF (NDEX.EQ.5)THEN
         CRC5CNT = CRC5CNT + 1
         CRC5TIM = CRC5TIM + XTIM
         CRC5DLY = CRC5DLY + XDLY
       ENDIF
       IF (NDEX.EQ.6)THEN
         CRC6CNT = CRC6CNT + 1
         CRC6TIM = CRC6TIM + XTIM
         CRC6DLY = CRC6DLY + XDLY
       ENDIF
       IF (NDEX.EQ.7)THEN
```

```
      WRITE(31,15)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
 15   FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,A3,A4,3X,16)

*  Assign entity attribute Values.

      ATRIB(1)=CBG
      ATRIB(2)=SEX
      ATRIB(3)=ASETYPE

*  Converts character string into an integer Value and
*  assigns it to the appropriate attribute ATRIB().

      NTP=0
      NBRC=0
      NTYPE=0

      DO 16 IJ=1,2
        II=ICHAR(TP(IJ:IJ))
        NUM=(79-(127-II))
        IF(IJ.EQ.1)NUM=NUM*10
        IF(IJ.EQ.2)NUM=NUM*1
        NTP=NTP+NUM
 16   CONTINUE
      ATRIB(4)=NTP

      ATRIB(5)=STR

      DO 17 J=1,3
        IF(J.EQ.1)GOTO 17
        II=ICHAR(BRC(J:J))
        NUM=(79-(127-11))
        IF(J.EQ.2)NUM=NUM*10
       IF(J.EQ.3)NUM=NUM*1
       NBRC=NBRC+NUM
17    CONTINUE
      ATRIB(9)=NBRC

      DO 18 K=1,2
        IF(K.EQ.1)GOTO 18
        II=ICHAR(TYPE(K:K))
        NUM=(79-(127-11))
        IF(K.EQ.2)NTYPE=NUM
18    CONTINUE
      ATRIB(10)=NTYPE

      GOTO 9999

20    WRITE(6,*),ERROR READING FILE:  ASETS.TMP'
25    CLOSE(30,STATUS=,KEEP')
                        CLOSE(31,STATUS='KEEP,)
                        XX(1)= 1.0
```

```
C*********************************************************************
C
C  Subroutine:  EVENT
C
C Description: Reads in all data from ASETS.TMP file.
C
*********************************************************************

      SUBROUTINE EVENT(I)

      DIMENSION CRCTRANS(18,67,7,8),CBGTRANS(18,67,7)
      INCLUDE 'PARAM.INC'

      INTEGER NDEX,STR,CRCTRANS,CBGTRANS,CRC1CNT,CRC2CNT,CRC3CNT,
     &CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT

      REAL CRC1TIM,CRC2TIM,CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,
     &CRC7TIM,CRC8TIM,CRC1DLY,CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY,
     &CRC6DLY,CRC7DLY,CRC8DLY,C1AVGTIM,C2AVGTIM,C3AVGTIM,
     &C4AVGTIM,C5AVGTIM,C6AVGTIM,C7AVGTIM,C8AVGTIM,C1AVGDLY,
     &C2AVGDLY,C3AVGDLY,C4AVGDLY,C5AVGDLY,C6AVGDLY,C7AVGDLY,
     &C8AVGDLY

      CHARACTER CBG*5,SEX*1,ASETYPE*3,TP*2,BRC*3,TYPE*4

      COMMON/SCOM1/ATRIB(MATRB), DD(MEQT), DDL(MEQT), DTNOW, II,
     1MFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, NTAPE, SS(MEQT),
     2SSL(MEQT),TNEXT,TNOW, XX(100)
      COMMON/UCOM1/CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,NDEX
      COMMON/CRARY/CRCTRANS,CBGTRANS,CRC1CNT,CRC2CNT,CRC3CNT,
     &CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT,CRC1TIM,CRC2TIM,
     &CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,CRC7TIM,CRC8TIM,CRC1DLY,
     &CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY,CRC6DLY,CRC7DLY,CRC8DLY,
     &C1AVGTIM,C2AVGTIM,C3AVGTIM,C4AVGTIM,C5AVGTIM,C6AVGTIM,
     &C7AVGTIM,C8AVGTIM,C1AVGDLY,C2AVGDLY,C3AVGDLY,C4AVGDLY,
     &C5AVGDLY,C6AVGDLY,C7AVGDLY,C8AVGDLY

      GOTO (1,2),I

*  Open input file:  ASETS.TMP, read entire file.
*  Open output file: ASETS2.TMP and stores the ASETS.TMP such
*  that the time period, branhh and type are concatenated to
*  a nine character code.

  1   OPEN(30,FILE='/home/warpam/iofiles/ASETS.TMP',STATUS='OLD')
      OPEN(31,FILE='/home/warpam/iofiles/ASETS2.TMP,,STATUS='OLD')


      READ(30,14,ERR=20,END=25)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
  14  FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,3X,A3,3X,A4,3X,I6)

*     WRITE(6,14)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
```

```
C*************************************************************************
C
C  Subroutine:  INTLC
C
C  Description: Initializes SLAM II variables.
C
C*************************************************************************

      SUBROUTINE INTLC

      INCLUDE 'PARAM.INC,

      CHARACTER*2 TP

      INTEGER TTFIN

      REAL ATRIB(5),ATRlB(12)
      COMMON/SCOMl/ATRIB(MATRB), DD(MEQT), DDL(MEQT), DTNOW, II,
     lMFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, NTAPE, SS(MEQT),
     2SSL(MEQT),TNEXT, TNOW, XX(lOO)

*  Initialize SLAM ll variables.

      ATRlB(1)=0.
      ATRIB(2)=0.
      ATRlB(3)=0.
      ATRlB(4)=0.
      ATRlB(5)=0.
      ATRlB(9)=0.
      ATRlB(10)=0.
      ATRIB(11)=0.
      ATRIB(12)=0.
      IF (TP.EQ. 01')THEN
        TTFIN = 7200
        GOTO 999
      ELSE
        TTFIN = 7680
*       MONTR,CLEAR,480;
      ENDIF

 999  CALL ENTER(l,ATRIB)

      RETURN
      END
```

```
$ KVANCO=7,KVASTO=8,KVAMNO=9,KVATLU=10,KVAPFE=11,KVAPLE=12,
$ KVCSPR=1,KVCNWL=2,KVCPFE=3,KVCPLE=4,KVCMXL=5,KVCPPL=6,
$ KVCCRC=7,KVCNTE=8,KVCCST=9,KVCSTB=10,KVCTLU=11,KVCVCO=12,
$ KVCRRC=13,KVCCPI=14,KVSESP=1,KVSLSP=2,KVSACC=3,KVSDEC=4,KVSLEN=5,
$ KVSBUF=6,KVSCKZ=7,KVSIFL=8,KVSJRQ=9,KVSINI=10,KVSREP=11,
$ KVSNTL=12,KVSNTU=13,KVSNUL=14,KVSNUU=16,KVSNUE=18,KvSNUF=20,
$ KV8NUC=22,KVSNUS=24,KVSTE=26,KVSSTF=27,KVSTLU=28,KVSPFE=29,
$ KVSPLE-30,KVSPAL=31,KVSNOV32,KVUPV8=1,KVUCSG=2,KVUCCP=3,
$ KVUICP=4,KVUDCP=5,KVUPCL=6,KVUVMO=7,KVUCSI=8,KVUSPD=9,KVUCBF=10,
$ KVUCBT=11,KVUTLU=12,KVUSCP=13,KVUSHT=14,KVUNTL=15,KVUSPT=16,
$ KVFVSI=4,KVWIFL=4,KVWVSI=5,KVWVRQ=6,KVWVRE=7,
$ KVWCPI=8,KVMCPI=4,KVANWF=13,KVCNWF=15,KVFNWF=5,KVMNWF=4,
$ KVSNWF=33,KVUNWF=15,KVWNWF=8)
  PARAMETER (MXMSG=250)
  PARAMETER (MXPOUT=6)
  INCLUDE 'PARAM.INC'
  COMMON/SCOM1/ATRIB(MATRB), DD(MEQT), DDL(MEQT), DTNOW, II,
 1MFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, NTAPE, SS(MEQT),
 2SSL(MEQT),TNEXT, TNOW, XX(100)
  COMMON QSET(1800000)
  EQUIVALENCE  (NSET (1),QSET(1))
  NNSET=1800000
  NCRDR=5
  NPRNT=6
  NTAPE=7
  OPEN(UNIT=NCRDR,FILE='fort.5')
  OPEN(UNIT=NPRNT,FILE='fort.6')
  CALL SLAM
  STOP
  END
```

6.8 CRC MODEL SPECIFIC PROGRAMS

6.8.1 FORTRAN PROGRAMS SUPPORTING SLAM II CRC PROGRAM - PROGRAM MAIN

```
C*************************************************************************
C  Program Name: CRCEXE                          Date: 12-03-1990
C
C  File Name:     CRCNPUT.F
C
C  Programmer:  Beth A. Wilson, SAIC, (703)749-8771
C
C Description:  FORTRAN programs supporting SLAM II CRC program
C                Program MAIN which includes CRC Subroutine INTLC,
C                Subroutine EVENT, Subroutine OTPUT.
C
C  Input:   ASETS.TMP
C
C  Output:  TRSLT.TMP
C
C*************************************************************************
C  Modifications:       (STATUS:  P  - PROPOSED;  R - REQUIRED;
C - COMPLETED)
C
C  Number  Status  Date:     Description:          Initials
C
C     01           12-03-90    Modified Subroutine EVENT  such     BAW
C                              that all data records in the
C                              file: ASETS.TMP would be read
C                              and the accumulated strencth
C                              would be calculated and passed
C                              back to the SLAM II program
C                              QUEUE for unbatching and process-
C                              ing in the CRC model.
C
C     02           01-30-91    Documentation of arious  calcula-   BAW
C                              tions  and procedures.
C
C*************************************************************************
            PROGRAM MAIN
C
C
C                       * * * * * * * * * * * * * * *
C                       *                           *
C                       *     SLAM II VERSION 4.03  *
C                       *                           *
C                       * * * * * * * * * * * * * * *
C
C
C
C
      DIMENSION NSET(1800000)
      PARAMETER (KVACP1=1,KVACP2=2,KVALEN=3,KVACAP=4,KVADIR=5,KVANTX=6,
```

```
                CALL MODIFYTP (NEWTP)
                DELTA = STR2(KK) - STR1(MAX)
                STRNG = OUT2(KK)(1:18)
                CALL DROPLINE(STRNG,OUT2,STR2,STR3,STR4,LOOP,
     &                        NEWTP,DELTA)
                MAX = MAX + 1
                GOTO 20
                ENDIF
              ENDIF
              IF (OUT2(KK)(1:18).NE.OUT1(MAX)(1:18))THEN
                STR3(KK) = 0
                STR4(KK) = 0
                STR3(REQLOC) = STR3(REQLOC) + STR4(KK)
                NEWTP = OLDTP
                CALL MODIFYTP (NEWTP)
                DELTA = STR2(KK) - STR4(KK)
                STRNG = OUT2(KK)(1:18)
                CALL DROPLINE(STRNG,OUT2,STR2,STR3,STR4,LOOP,
     &                       NEWTP,DELTA)
                GOTO 20
              ENDIF
            ENDIF
          ENDIF

 50 WRITE(6,*)'WRITING UPDATES TO FILE:  MODRQAST.TMP'
*  Write new output to MODRQA8T.TMP.

OPEN(80,FILE=,/home/warpam/iofiles/MODRQAST.TMP',STATUS='NEW')

          DO 601 J = 1,LOOP
            IF (OUT2(J)(10:11) .NE. LASTTP) THEN
*             WRITE(6,602)OUT2(J)(1:5), OUT2(J)(6:6), OUT2(J)(7:9),
*    $             OUT2(J)(10:18), STR2(J), STR3(J), STR4(J)
            WRITE(80,602)OUT2(J)(1:5), OUT2(J)(6:6), OUT2(J)(7:9),
           $          OUT2(J)(10:18), STR2(J), STR3 (J), STR4 (J)
 602      FORMAT(2X,A5,4x,A1,4X,A3,3x,A9,3X,I6,3X,I6,3X,I6)
           ENDIF
 601  CONTINUE
      CLOSE(80,STATUS=,KEEP,)

*  Exit subroutine
          RETURN
          END
```

```
      IF (STR3(REQLOC).LT.STR2(REQLOC))THEN
          NEWTP = OLDTP
          CALL MODIFYTP (NEWTP)
          DELTA = STR2(REQLOC) - STR3(REQLOC)
          STRNG = OUT2(REQLOC)(1:18)
          CALL DROPLINE(STRNG,OUT2,STR2,STR3,STR4,LOOP,
     &                  NEWTP,DELTA)
      GOTO 50
    ENDIF
  ENDIF
  IF (OUT2(KK)(10:11).NE.OLDTP)GOTO 20
  IF (OUT2(KK)(10:11).EQ.OLDTP)THEN
     IF (OUT2(KK)(7:9).EQ.RQMT)THEN
        RQCNT = RQCNT + 1
        IF (RQCNT.EQ.1)THEN
           REQLOC = KK
           STR3(REQLOC) = 0
           STR4(REQLOC) = 0
           GOTO 20
        ENDIF
        IF (RQCNT.GT.1)THEN
        IF (STR3(REQLOC).EQ.STR2(REQLOC))THEN
            RELOC = KK
            STR3(REQLOC) = 0
            STR4(REQLOC) = 0
            GOTO 20
        ENDIF
        IF (STR3(REQLOC).LT.STR2(REQLOC))THEN
          NEWTP = OLDTP
          CALL MODIFYTP (NEWTP)
          DELTA = STR2(REQLOC) - STR3(REQLOC)
          STRNG = OUT2(REQLOC)(1: 18)
          CALL DROPLINE(STRNG,OUT2,STR2,STR3,STR4,LOOP,
&                       NEWTP,DELTA)
          REQLOC = KK
          STR3(REQLOC) = 0
          STR4(REQLOC) = 0
          GOTO 20
        ENDIF
     ENDIF
    ENDIF
    IF (OUT2(KK)(7:9).NE.RQMT)THEN
       IF (OUT2(KK)(1:18).EQ.OUT1(MAX)(1:18))THEN
          STR3(KK) = 0
          STR4(KK) = STR1(MAX)
          STR3(REQLOC) = STR3(REQLOC) + STR1(MAX)
          IF (STR1(MAX).EQ.STR2(KK))THEN
             MAX = MAX + 1
             GOTO 20
          ENDIF
          IF (STR1(MAX).LT.STR2(KK))THEN
              NEWTP = OLDTP
```

```
      OUT1(INDEX)(7:9) = TTYPE
      OUT1(INDEX)(10:11) = TP
      OUT1(INDEX)(12:18) = BRAST
      STR1(INDEX) = SHIPPED
      GOTO 11

 13   WRITE(6,*),ERROR READING FILE:  TRSLT.TMP'
 14   CLOSE(32,STATUS=,KEEP')

*
* Stores file:  MODRQAST.TMP into arrays OUT2, STR2, STR3, STR4
*
      LOOP =  0

OPEN(80,FILE='/home/warpam/iofiles/MODRQAST.TMP',STATUS='OLD')

 16   READ(80,17,ERR=18,END=19)CATBRG,SEXX,TYP,TPRI,NEWSTR,
     $                         ORGSTR,ASETSU
 17   FORMAT(2X,A5,4X,A1,4X,A3,3X,A9,3X,I6,3X,I6,3X,I6)

      LOOP = LOOP + 1
      OUT2(LOOP)(1:5) = CATBRG
      OUT2(LOOP)(6:6) = SEXX
      OUT2(LOOP)(7:9) = TYP
      OUT2(LOOP)(10:18) = TPRI
      STR2(LOOP) = NEWSTR
      STR3(LOOP) = ORGSTR
      STR4(LOOP) = ASETSU

      GOTO 16
 18   WRITE(6,*',' ERROR READING FILE:    MODRQAST.TMP,
 19   CLOSE(80,STATUS='DELETE')

*
* Modify MODRQAST.TMP arrays (OUT2,STR2,STR3,STR4) *

      WRITE(6,*)'BEGIN MODIFYING MODRQAST.TMP arrays'
      WRITE(6,*)'No. OF TRSLT.TMP RECORDS ... INDEX ' INDEX
      WRITE(6,*)'No. OF MODRQAST.TMP RECORDS .. LOOP, LOOP
      WRITE(6,*),TIME PERIOD ... OLDTP ', OLDTP

      KK = 0
      MAX = 1
      RQCNT = 0
      REQLOC = 0

 20   KK = KK + 1

      IF (KK.GT.LOOP)GOTO 50

      IF (MAX.GT.INDEX)THEN
        IF (STR3(REQLOC).EQ.STR2(REQLOC))GOTO 50
```

```
************************************************************************
*
*  Subroutine:    UPDATEFILE
*
*  Description:   Updates the ASETS.TMP by creating a temporary file
*                 to show which assets were used.
*
*  Input:         TRSLT.TMP
*                 ASETS.TMP
*
*  Output:        Modified MODRQAST.TMP
*
************************************************************************
*  Modifications:  (STATUS: P - PROPOSED; R - REQUIRED; C - COMPLETED)
*
*  Number Status  Date:          Description:              Initials
*  ------ ------ -------- ------------------------- --------------
*
*     01    C     12-18-90    Modified subroutine     BAW
*                             UPDATEFILE
*
************************************************************************

      SUBROUTINE UPDATEFILE (RQMT, LASTTP)

*  Global Variables
      CHARACTER RQMT*3,LASTTP*2,NEWTP*2,STRNG*18
      CHARACTER TSEX*1,SEXX*1,TP*2,TTYPE*3,TYP*3,OLDTP*2
      CHARACTER CBG*5,CATBRG*5,BRAST*7,TPRI*9
      CHARACTER OUT1(15000)*18,OUT2(150000)*18

      INTEGER STR1(15000),STR2(150000),STR3(150000),STR4(150000)
      INTEGER STR,SHIPPED,NEWSTR,ORGSTR,ASETSU,LOOP,KK,MAX,INDEX
      INTEGER REQLOC,DELTA,RQCNT

*  Initialize Variables

      INDEX = 0

*  Opens and reads input file: TRSLT.TMP.
*  The OUT1 and STR1 arrays will hold assets used (shipped)
*  along with their characteristics.

      OPEN(32,FILE='/home/warpam/iofiles/TRSLT.TMP',STATUS='OLD')

 11   READ(32,12,ERR=13,END=14)TCBG,TSEX,TTYPE,TP,BRAST,STR,SHIPPED
 12   FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,A7,3X,I6,3X,I6)

      OLDTP = TP
      INDEX = INDEX + 1
      OUT1(INDEX)(1:5) = TCBG
      OUT1(INDEX)(6:6) = TSEX
```

```
      TIME = '15'
      ELSE IF (TIME .EQ. '15') THEN
      TIME = '16'
      ELSE IF (TIME .EQ. '16') THEN
      TIME = '17'
      ELSE IF (TIME .EQ. '17') THEN
      TIME = '18'
      ELSE IF (TIME .EQ. '18') THEN
      TIME = '19'
      ENDIF

* Exit subroutine
      RETURN
      END
```

```
************************************************************************
*
*  Subroutine:    MODIFYTP
*
*  Description:   This subroutine increments the TP string by 1
*
*  Input:         TP
*
*  Output:        TP + 1
*
************************************************************************
*  Modifications:  (STATUS: P - PROPOSED; R - REQUIRED; C - COMPLETED)
*
*  Number Status  Date:          Description:              Initials
*  ------ ------ -------- -------------------------- --------------
*
*
************************************************************************

      SUBROUTINE MODIFYTP (TIME)

      CHARACTER TIME*2

      IF (TIME .EQ. '00') THEN
      TIME = '01'
      ELSE IF (TIME .EQ. '01') THEN
      TIME = '02'
      ELSE IF (TIME .EQ. '02') THEN
      TIME = '03'
      ELSE IF (TIME .EQ. '03') THEN
      TIME = '04'
      ELSE IF (TIME .EQ. '04') THEN
      TIME = '05'
      ELSE IF (TIME .EQ. '05') THEN
      TIME = '06'
      ELSE IF (TIME .EQ. '06') THEN
      TIME = '07'
      ELSE IF (TIME .EQ. '07') THEN
      TIME = '08'
      ELSE IF (TIME .EQ. '08') THEN
      TIME = '09'
      ELSE IF (TIME .EQ. '09') THEN
      TIME = '10'
      ELSE IF (TIME .EQ. '10') THEN
      TIME = '11'
      ELSE IF (TIME .EQ. '11') THEN
      TIME = '12'
      ELSE IF (TIME .EQ. '12') THEN
      TIME = '13'
      ELSE IF (TIME .EQ. '13') THEN
      TIME = '14'
      ELSE IF (TIME .EQ. '14') THEN
```

```
      STR = '66'
      ELSE IF (NUM .EQ. 67) THEN
      STR = '67'
      ELSE IF (NUM .EQ. 68) THEN
      STR = '68'
      ENDIF

* Exit subroutine
      RETURN
      END
```

```
STR = '40'
ELSE IF (NUM .EQ. 41) THEN
STR = '41'
ELSE IF (NUM .EQ. 42) THEN
STR = '42'
ELSE IF (NUM .EQ. 43) THEN
STR = '43'
ELSE IF (NUM .EQ. 44) THEN
STR = '44'
ELSE IF (NUM .EQ. 45) THEN
STR = '45'
ELSE IF (NUM .EQ. 46) THEN
STR = '46'
ELSE IF (NUM .EQ. 47) THEN
STR = '47'
ELSE IF (NUM .EQ. 48) THEN
STR = '48'
ELSE IF (NUM .EQ. 49) THEN
STR = '49'
ELSE IF (NUM .EQ. 50) THEN
STR = '50'
ELSE IF (NUM .EQ. 51) THEN
STR = '51'
ELSE IF (NUM .EQ. 52) THEN
STR = '52'
ELSE IF (NUM .EQ. 53) THEN
STR = '53'
ELSE IF (NUM .EQ. 54) THEN
STR = '54'
ELSE IF (NUM .EQ. 55) THEN
STR = '55'
ELSE IF (NUM .EQ. 56) THEN
STR = '56'
ELSE IF (NUM .EQ. 57) THEN
STR = '57'
ELSE IF (NUM .EQ. 58) THEN
STR = '58'
ELSE IF (NUM .EQ. 59) THEN
STR = '59'
ELSE IF (NUM .EQ. 60) THEN
STR = '60'
ELSE IF (NUM .EQ. 61) THEN
STR = '61'
ELSE IF (NUM .EQ. 62) THEN
STR = '62'
ELSE IF (NUM .EQ. 63) THEN
STR = '63'
ELSE IF (NUM .EQ. 64) THEN
STR = '64'
ELSE IF (NUM .EQ. 65) THEN
STR = '65'
ELSE IF (NUM .EQ. 66) THEN
```

```
STR = '14'
ELSE IF (NUM .EQ. 15) THEN
STR = '15'
ELSE IF (NUM .EQ. 16) THEN
STR = '16'
ELSE IF (NUM .EQ. 17) THEN
STR = '17'
ELSE IF (NUM .EQ. 18) THEN
STR = '18'
ELSE IF (NUM .EQ. 19) THEN
STR = '19'
ELSE IF (NUM .EQ. 20) THEN
STR = '20'
ELSE IF (NUM .EQ. 21) THEN
STR = '21'
ELSE IF (NUM .EQ. 22) THEN
STR = '22'
ELSE IF (NUM .EQ. 23) THEN
STR = '23'
ELSE IF (NUM .EQ. 24) THEN
STR = '24'
ELSE IF (NUM .EQ. 25) THEN
STR = '25'
ELSE IF (NUM .EQ. 26) THEN
STR = '26'
ELSE IF (NUM .EQ. 27) THEN
STR = '27'
ELSE IF (NUM .EQ. 28) THEN
STR = '28'
ELSE IF (NUM .EQ. 29) THEN
STR = '29'
ELSE IF (NUM .EQ. 30) THEN
STR = '30'
ELSE IF (NUM .EQ. 31) THEN
STR = '31'
ELSE IF (NUM .EQ. 32) THEN
STR = '32'
ELSE IF (NUM .EQ. 33) THEN
STR = '33'
ELSE IF (NUM .EQ. 34) THEN
STR = '34'
ELSE IF (NUM .EQ. 35) THEN
STR = '35'
ELSE IF (NUM .EQ. 36) THEN
STR = '36'
ELSE IF (NUM .EQ. 37) THEN
STR = '37'
ELSE IF (NUM .EQ. 38) THEN
STR = '38'
ELSE IF (NUM .EQ. 39) THEN
STR = '39'
ELSE IF (NUM .EQ. 40) THEN
```

```
*************************************************************************
*
*  Subroutine:     INT2STR
*
*  Description:    Converts an integer to a character string
*
*  Input:          INTEGER VARIABLE
*
*  Output:         CHARACTER STRING
*
*************************************************************************
*  Modifications:  (STATUS: P - PROPOSED; R - REQUIRED; C - COMPLETED)
*
*  Number Status  Date:          Description:              Initials
*  ------ ------ -------- -------------------------- --------------
*
*
*************************************************************************

      SUBROUTINE INT2STR (NUM, STR)

      INTEGER NUM

      CHARACTER STR*2

      IF (NUM .EQ. 1) THEN
      STR = '01'
      ELSE IF (NUM .EQ. 2) THEN
      STR = '02'
      ELSE IF (NUM .EQ. 3) THEN
      STR = '03'
      ELSE IF (NUM .EQ. 4) THEN
      STR = '04'
      ELSE IF (NUM .EQ. 5) THEN
      STR = '05'
      ELSE IF (NUM .EQ. 6) THEN
      STR = '06'
      ELSE IF (NUM .EQ. 7) THEN
      STR = '07'
      ELSE IF (NUM .EQ. 8) THEN
      STR = '08'
      ELSE IF (NUM .EQ. 9) THEN
      STR = '09'
      ELSE IF (NUM .EQ. 10) THEN
      STR = '10'
      ELSE IF (NUM .EQ. 11) THEN
      STR = '11'
      ELSE IF (NUM .EQ. 12) THEN
      STR = '12'
      ELSE IF (NUM .EQ. 13) THEN
      STR = '13'
      ELSE IF (NUM .EQ. 14) THEN
```

```
            STR3(I+1) = STR3(I)
            STR4(I+1) = STR4(I)
150      CONTINUE
            OUT2(SETT)(1:9) = STRNG(1:9)
            OUT2(SETT)(10:11) = NEWTP
            OUT2(SETT)(12:18) = STRNG(12:18)
            STR2(SETT) = DELTA
            STR3(SETT) = 0
            STR4(SETT) = 0

            LOOP = LOOP + 1
            GOTO 400
            ENDIF
         ENDIF

400      RETURN
         END
```

```
      C3AVGDLY = CRC3DLY/CRC3CNT

      C4AVGTIM = CRC4TIM/CRC4CNT
      C4AVGDLY = CRC4DLY/CRC4CNT

      C5AVGTIM = CRC5TIM/CRC5CNT
      C5AVGDLY = CRC5DLY/CRC5CNT

      C6AVGTIM = CRC6TIM/CRC6CNT
      C6AVGDLY = CRC6DLY/CRC6CNT

      C7AVGTIM = CRC7TIM/CRC7CNT
      C7AVGDLY = CRC7DLY/CRC7CNT

      C8AVGTIM = CRC8TIM/CRC8CNT
      C8AVGDLY = CRC8DLY/CRC8CNT

      WRITE(6,20)
20    FORMAT(//15X,'AVERAGE TIME FOR THIS TIME PERIOD',//3X,
     &' CRC',4X,'COUNT',8X,'AVG. PROCESSING TIME',8X,
     &'AVG. DELAY TIME,,/)

      WRITE(6,21)CRC1CNT,C1AVGTIM,C1AVGDLY
21    FORMAT(3X,'I ',4X,I5,10X,F10.1,16X,F10.1)

      WRITE(6,22)CRC2CNT,C2AVGTIM,C2AVGDLY
22    FORMAT(3X, II ,,4X,I5,10X,F10.1,16X,F10.1)

      WRITE(6,23)CRC3CNT,C3AVGTIM,C3AVGDLY
23    FORMAT(3X,,III ,4X,I5,10X,F10.1,16X,F10.1)

      WRITE(6,24)CRC4CNT,C4AVGTIM,C4AVGDLY
24    FORMAT(3X,'IV ',4X,I5,10X,F10.1,16X,F10.1)

      WRITE(6,25)CRC5CNT,C5AVGTIM,C5AVGDLY
25    FORMAT(3X,'V ,4X,I5,10X,F10.1,16X,F10.1)

      WRITE(6,26)CRC6CNT,C6AVGTIM,C6AVGDLY
26    FORMAT(3X,,VI ,,4X,I5,10X,F10.1,16X,F10.1)

      WRITE(6,27)CRC7CNT,C7AVGTIM,C7AVGDLY
27    FORMAT(3X,,VII ',4X,15,10X,F10.1,16X,F10.1)

      WRITE(6,28)CRC8CNT,C8AVGTIM,C8AVGDLY
28    FORMAT(3X,'VIII',4X,15,10X,F10.1,16X,F10.1)

      RETURN
      END
```

6.8.2 CRC MODEL PROCESSING FLOW

Figure 10 depicts the processing flow within the SLAM II portion of the CRC model.

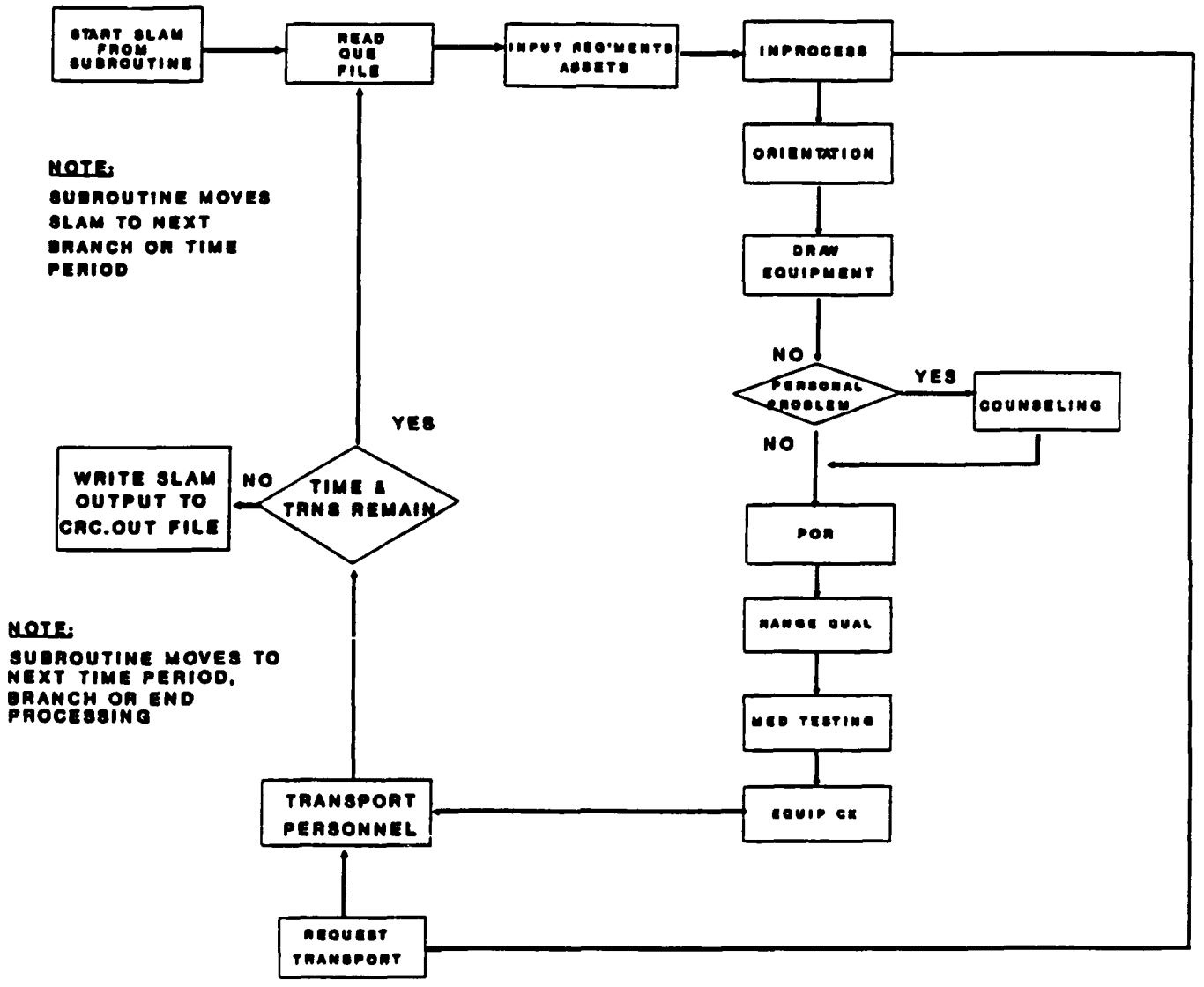


FIGURE 10: CRC SLAM II PROCESSING

6.8.3 CRC MODEL SLAM II PROGRAMS

```
;*************************************************************************
;     SLAM II VARIABLES
;     ATRIB(1) = CAT/BRANCH AND GRADE ACROYMN
;     ATRIB(2) = MALE OR FEMALE
;     ATRIB(3) = ASSET TYPE
;     ATRIB(4) = TIME PERIOD
;     ATRIB(5) = REQUIREMENT ASSET QUANTITY
;     ATRIB(6) = ARRIVAL TIME TO CRC
;     ATRIB(7) = TOTAL TIME IN THE CRC
;     ATRIB(8) = EXCESS TRANSPORTATION TIME OF (72 hours +- 40 hours)
;     ATRIB(9) = BRANCH INDEX
;     ATRIB(10)= TYPE ASSET INDEX
;     ATRIB(11)= CRC  INDEX
;     ATRIB(12)= COUNTER TO COLLECT  STATISTICS
;
;*************************************************************************
;
GEN,WILSON/WOJCIK/FRAME,WARPAM/VERSION II.1/30/91,,N,N,Y/N,N,Y/F,72;
LIMITS,90,14,80000;
EQUIVALENCE/ATRIB(1),CBG;
EQUIVALENCE/ATRIB(2),SEX;
EQUIVALENCE/ATRIB(3),ASETYPE;
EQUIVALENCE/ATRIB(4),TP;
EQUIVALENCE/ATRIB(5),STR;
EQUIVALENCE/ATRIB(9),BRC;
EQUIVALENCE/ATRIB(10),TYPE;
;
;     The INIT statement sets the length of the simulation for CRC
;     and time period 1.  It is set in minutes at 7919 (11 days)
;     (actually one minute less) to represent 1 zero day and 10
;     processing days.
;
;     For CRC and time periods 2-18, it is set at 10059 representing
;     the same 11 days plus the time required to fill the system for
;     steady state operation which for version 1.0 of WARPAM is 3 days
;     (2160 min) which is the time the first entities would be available
;     to exit the system.
;
;     For RPL and time period 1, it is set at 7200 representing 10 days.
;
;     For RPL and time period 2-18, it is set at 9009 representing 13 days
;     (10 processing days and 1110 min., the time required to complete
;     processing the 6 stations in RPL version 1.0).
;
INIT,,7919;
NETWORK;
;
;                    *** REPLACEMENT OPERATION BEGINS!!!!! ***
;
```

LIMIT STATEMENT SETS THE NUMBER OF QUEUES WHICH MAY BE CREATED: SET AT 90-MAX IS 100; 14 ATTRIBUTES PER ENTITY AND 80000 ENTITIES MAX IN THE SYSTEM

INIT FOR CRC1.DAT (TIME PERIOD 1) IS 7919
INIT FOR CRC2.DAT-CRC18.DAT IS 10059

```
      ENTER,1;
;     EVENT 1 clones the incoming entities.  One entity moves through the
;     normal system and one is returned to the FORTRAN program where it
;     causes the next line to be read and then is destroyed.
;
LOOP  EVENT,1;        EVENT 1 READS IN THE ASSETS FILE
      GOON,2;
      ACT,,XX(1).EQ.0.0;
      ACT,,XX(1).EQ.0.0,LOOP;  READ IN NEXT LINE
      ACT,,XX(1).EQ.1.0,T2;    TERMINATE DUPLICATE OF LAST ASSET LINE
;
      GOON;
      ACT/89;  NUMBER OF ENTITIES
      GOON;
      UNBATCH,5;      ASSET LINES ARE UNBATCHED TO ENTITIES
;
      GOON;
;     ASSIGN,ATRIB(6)=TNOW;
      GOON,1;
;
;     This section may be activated to route certain branches to specific
;     CRC Branch numbers are found in the WARPRI.TBL.
;
;     ACT/90,,ATRIB(9).EQ.3.OR.ATRIB(9).EQ.8,C1;    INFANTRY    OFFICIERS
;     ACT/91,,ATRIB(9).EQ.18.OR.ATRIB(9).EQ.23,C1;    INFANTRY    ENLISTED
;     ACT/92,,ATRIB(9).EQ.2.OR.ATRIB(9).EQ.7.OR.ATRIB(9).EQ.15,C1; AVN OFF
;     ACT/93,,ATRIB(9).EQ.17.OR.ATRIB(9).EQ.22,C1;    AVIATION    ENL
;     ACT/94,,ATRIB(9).EQ.1.OR.ATRIB(9).EQ.6,C2;    ARMOR    OFF
;     ACT/95,,ATRIB(9).EQ.16.OR.ATRIB(9).EQ.21,C2; ARMOR ENL
;     ACT/96,,,H3;   OTHER MOS
;
;     This section may be activated to route a segregated branch to a certain
;     CRC.  WARPAM version 1.0 routes nearly equally to all eight CRC.
;H3   GOON;
;     ACT,,.19,C2;
;     ACT,,.81,C3;
;
      ACT,,.12,C1;
      ACT,,.13,C2;          THIS SECTION ROUTES ENTITIES
      ACT,,.12,C3;          TO THE CRC.  THE SUM MUST BE
      ACT,,.13,C4;          100%. TO A CRC(S) MAKE THE
      ACT,,.12,C5;          PERCENTAGE ZERO.
      ACT,,.13,C6;
      ACT,,.12,C7;
      ACT,,.13,C8;
;
,********** FORT BENNING (CRC I)    **********
;
C1    GOON;
;
;     Zero day allows number of personnel shown to enter a CRC.
;
```

```
                ASSIGN,ATRIB(11)=1;
                QUEUE(1),,30000,BLOCK;
                ACT (300) /1,RNORM(720,0);          CRC  I  DAY  ZERO
;
                ASSIGN,ATRIB(6)=TNOW;
;
                QUEUE(2),,30000,BLOCK;
                ACT(24)/2,RNORM(4,0.4);             CRC I INPROCESSING/INTERVIEW
;
                QUEUE(3),,30000,BLOCK;
                ACT(24)/3,RNORM(16,1.6);            CRC I  POR
;
                QUEUE(4),,30000,BLOCK;
                ACT(45)/4,RNORM(90,9);              CRC I  OCIE
;
                QUEUE(5),,30000,BLOCK;
                ACT(150)/5,RNORM(135,13.5);         CRC I  WPN ZERO
;
                QUEUE(6),,30000,BLOCK;
                ACT(75)/6,RNORM(53,5.3);            CRC I  MASK TEST
;
;               QUEUE(7),,30000,BLOCK;
;               ACT(300)/7,RNORM(240,24);           CRC I  MEDICAL
;
;               GOON,1;
;               QUEUE(8),,30000,BLOCK;
;               ACT(60)/8,RNORM(48,0),0.2;          CRC I  OPTICAL
;               ACT/9,,0.8;
;
;               QUEUE(9),,30000,BLOCK;
;               ACT(3000)/10,RNORM(360,36),,EXIT; CRC I  MISC/MEALS
;
;********** FORT KNOX (CRC II) **********

C2      GOON;
;
;       Zero day allows number of personnel shown to enter a CRC.
;
                ASSIGN,ATRIB(11)=1;
                QUEUE(11),,30000,BLOCK;
                ACT (300) /11,RNORM(720,0);         CRC  II  DAY  ZERO
;
                ASSIGN,ATRIB(6)=TNOW;
;
                QUEUE(12),,30000,BLOCK;
                ACT(24)/12,RNORM(4,0.4);            CRC II INPROCESSING/INTERVIEW
;
                QUEUE(13),,30000,BLOCK;
                ACT(24)/13,RNORM(16,1.6);           CRC II  POR
;
                QUEUE(14),,30000,BLOCK;
                ACT(45)/14,RNORM(90,9);             CRC II  OCIE
```

```
;
            QUEUE(15),,30000,BLOCK;
            ACT(150)/15,RNORM(135,13.5);        CRC II  WPN ZERO
;
            QUEUE(16),,30000,BLOCK;
            ACT(75)/16,RNORM(53,5.3);           CRC II  MASK TEST
;
;           QUEUE(17),,30000,BLOCK;
;           ACT(300)/17,RNORM(240,24);          CRC II  MEDICAL
;
;           GOON,1;
;           QUEUE(18),,30000,BLOCK;
;           ACT(60)/18,RNORM(48,0),0.2;         CRC II  OPTICAL
;           ACT/19,,0.8;
;
;           QUEUE(19),,30000,BLOCK;
;           ACT(3000)/20,RNORM(360,36),,EXIT; CRC II  MISC/MEALS
;
; **********            FORT JACKSON (CRC III)
                                                                **********
GOON;
            ASSIGN,ATRIB(11)=3;
            QUEUE(21),,30000,BLOCK;
            ACT(400)/21,RNORM(720,0);           CRC III DAY ZERO
;
            ASSIGN,ATRIB(6)=TNOW;
;
            QUEUE(22),,30000,BLOCK;
            ACT(32)/22,RNORM(4,0.4);            CRC III INPROCESS
;
            QUEUE(23),,30000,BLOCK;
            ACT(32)/23,RNORM(16,1.6);           CRC III  POR
;
            QUEUE(24),,30000,BLOCK;
            ACT(50)/24,RNORM(90,9);             CRC III  OCIE
;
            QUEUE(25),,30000,BLOCK;
            ACT(200)/25,RNORM(165,16.5);        CRC III WPN ZERO
;
            QUEUE(26),,30000,BLOCK;
            ACT(100)/26,RNORM(68,6.8);          CRC III MASK TEST
;
;           QUEUE(27),,30000,BLOCK;
;           ACT(100)/27,RNORM(80,8);            CRC III MEDICAL;
;
;           GOON,1;
;           QUEUE(28),,30000,BLOCK;
;           ACT(80)/28,RNORM(48,4.8),0.2;       CRC III OPTICAL
;           ACT/29,,0.8;

;           QUEUE(29),,30000,BLOCK;
;           ACT(3000)/30,RNORM(360,36),,EXIT;CRC  III MISC/MEALS
```

```
;
;
;********** FORT SILL (CRC IV)********
;
C4          GOON;
;
;     Zero day allows number of personnel shown to enter a CRC.

            ASSIGN,ATRIB(11)=4;
            QUEUE(31),,30000,BLOCK;
            ACT(300)/31,RNORM(720,0);                CRC IV DAY ZERO
;
            ASSIGN,ATRIB(6)=TNOW;
;
            QUEUE(32),,30000,BLOCK;
;           ACT(24)/32,RNORM(4,0.4);                 CRC IV INPROCESS/INTER
;
            QUEUE(33),,30000,BLOCK;
            ACT(24)/33,RNORM(16,1.6);                CRC IV POR
;
            QUEUE(34),,30000,BLOCK;
            ACT(45)/34,RNORM(90,9);                  CRC IV OCIE
;
            QUEUE(35),,30000,BLOCK;
            ACT(150)/35,RNORM(135,13.5);             CRC IV WPN ZERO
;
            QUEUE(36), ,30000,BLOCK:
            ACT(75)/36,RNORM(53,5.3);                CRC IV MASK TEST
;
;           QUEUE(37),,30000,BLOCK;
;           ACT (300)/37,RNORM(240,24);              CRC  IV MEDICAL
;
;           GOON,1;
;           QUEUE(38),,30000,BLOCK;
;           ACT(60)/38,RNORM(48,0),0.2;              CRC IV OPTICAL
;           ACT/39,,0.8;
;
;           QUEUE(39),,30000,BLOCK;
;           ACT(3000)/40,RNORM(360,36),,EXIT;  CRC IV MISC/MEALS
;
;********** FORT LEWIS (CRC V)      **********
;
C5         GOON;
;
;     Zero day allows number of personnel shown to enter a CRC.
;
            ASSIGN,ATRIB(11)=5;
            QUEUE(41),,30000,BLOCK;
            ACT(300)/41,RNORM(720,0);                CRC V DAY ZERO
;
            ASSIGN,ATRIB(6)=TNOW;
;
```

```
            QUEUE(42),,30000,BLOCK;
            ACT(24)/42,RNORM(4,0.4);                    CRC V INPROCESS/INTER
;
            QUEUE(43),,30000,BLOCK;
            ACT(24)/43,RNORM(16,1.6);                   CRC V POR
;
            QUEUE(44),,30000,BLOCK;
            ACT(45)/44,RNORM(90,9);                     CRC V OCIE
;
            QUEUE(45),,30000,BLOCK;
           ACT(150)/45,RNORM(135,13.5);                 CRC V WPN ZERO
;
           QUEUE(46),,30000,BLOCK;
           ACT(75)/46,RNORM(53,5.3);                    CRC V MASK TEST
;
;          QUEUE(47),,30000,BLOCK;
;          ACT(300)/47,RNORM(240,24);                   CRC V MEDICAL
;
;          GOON,1;
;          QUEUE(48),,30000,BLOCK;
;          ACT(60)/48,RNORM(48,0),0.2;                  CRC V OPTICAL
;          ACT/49,,0.8;
;
;          QUEUE(49),,30000,BLOCK;
;          ACT(3000)/50,RNORM(360,36),,EXIT;  CRC V MISC/MEALS
;
;********** FORT ORD (CRC VI) **********
;
C6         GOON;
;
;     Zero day allows number of personnel shown to enter a CRC.
;
           ASSIGN,ATRIB(11)=6;
           QUEUE(51),,30000,BLOCK;
           ACT(300)/51,RNORM(720,0);                    CRC VI DAY ZERO
;
           ASSIGN,ATRIB(6)=TNOW;
;
           QUEUE(52),,30000,BLOCK;
           ACT(24)/52,RNORM(4,0.4);                     CRC VI INPROCESS/INTER
;
           QUEUE(53),,30000,BLOCK;
           ACT(24)/53,RNORM(16,1.6);                    CRC VI POR
;
           QUEUE(54),,30000,BLOCK;
           ACT(45)/54,RNORM(90,9);                      CRC VI OCIE
;
           QUEUE(55),,30000,BLOCK;
           ACT(150)/55,RNORM(135,13.5);                 CRC VI WPN ZERO
;
           QUEUE(56),,30000,BLOCK;
           ACT(75)/56,RNORM(53,5.3);                    CRC VI MASK TEST
```

```
;
;          QUEUE(57),,30000,BLOCK;
;          ACT(300)/57,RNORM(240,24);                    CRC VI MEDICAL
;
;          GOON,1;
;          QUEUE(58),,30000,BLOCK;
;          ACT(60)/58,RNORM(48,0),0.2;                   CRC VI OPTICAL
;          ACT/59,,0.8;
;
;          QUEUE(59),,30000,BLOCK;
;          ACT(3000)/60,RNORM(360,36),,EXIT;  CRC VI MSC/MEALS
;
;**********        FORT DIX  (CRC VII)      **********
;
C7         GOON;
;
;     Zero day allows number of personnel shown to enter a CRC.

           ASSIGN,ATRIB(11)=7;
           QUEUE(61),,30000,BLOCK;
           ACT(300)/61,RNORM(720,0);              CRC VII DAY ZERO
;
           ASSIGN,ATRIB(6)=TNOW;
;
           QUEUE(62),,30000,BLOCK;
           ACT(24)/62,RNORM(4,0.4);               CRC VII INPROCESS/INTER
;
           QUEUE(63),,30000,BLOCK;
           ACT(24)/63,RNORM(16,1.6);              CRC VII POR
;
           QUEUE (64) , ,30000,BLOCK;
           ACT(45)/64,RNORM(90,9);                CRC VII OCIE
;
           QUEUE(65),,30000,BLOCK;
           ACT(150)/65,RNORM(135,13.5);           CRC VII WPN zERO
;
           QUEUE(66),,30000,BLOCK;
           ACT(75)/66,RNORM(53,5.3);              CRC VII MASK TEST
;
;          QUEUE(67),,30000,BLOCK;
;          ACT(300)/67,RNORM(240,24);             CRC VII MEDICAL
;
;          GOON,1;
;          QUEUE(68),,30000,BLOCK;
;          ACT(60)/68,RNORM(48,0),0.2;            CRC VII OPTICAL
;          ACT/69,,0.8;
;
;          QUEUE(69),,30000,BLOCK;
;          ACT(3000)/70,RNORM(360,36),,EXIT; CRC VII MISC/MEALS
;
;********** FORT LEONARD WOOD (CRC VIII)         **********
;
```

```
C8        GOON;
;
;     Zero day allows number of personnel shown to enter a CRC.
;
          ASSIGN,ATRIB(11)=8;
          QUEUE(71),,30000,BLOCK;
          ACT(300)/71,RNORM(720,0);          CRC VIII DAY ZERO
;
          ASSIGN,ATRIB(6)=TNOW;
;
          QUEUE(72),,30000,BLOCK;
          ACT(24)/72,RNORM(4,0.4);           CRC VIII INPROCESS/INTERVIEW
;
          QUEUE(73),,30000,BLOCK;
          ACT(24)/73,RNORM(16,1.6);          CRC VIII POR
;
          QUEUE(74),,30000,BLOCK;
          ACT(45)/74,RNORM(90,9);            CRC VIII OCIE
;
          QUEUE(75),,30000,BLOCK;
          ACT(150)/75,RNORM(135,13.5);       CRC VIII WPN ZERO
;
          QUEUE(76),,30000,BLOCK;
          ACT(75)/76,RNORM(53,5.3);          CRC VIII MASK TEST
;
;         QUEUE(77),,30000,BLOCK;
;         ACT(300)/77,RNORM(240,24);         CRC VIII MEDICAL
;
;         GOON,1;
;         QUEUE(78),,30000,BLOCK;
;         ACT(60)/78,RNORM(48,0),0.2;        CRC VIII OPTICAL
;         ACT/79,,0.8;
;
;         QUEUE(79),,30000,BLOCK;
;         ACT(3000)/80,RNORM(360,36),,EXIT;  CRC VIII MISC/MEALS
;
```

```
;     TIME IN SYSTEM CALCULATION & EXCESSIVE TRANSPORT TIME CALCULATION
;
```

ENTITIES ARE HELD FOR 3 DAYS, THE REQUIRED TIME TO RESERVE AN AIR TRANSPORTATION SEAT. IF PROCESSING IS GREATER THAN REQUIRED DELAY ENTITIES ARE NOT DELAYED

```
EXIT  ASSIGN,ATRIB(7)=TNOW-ATRIB(6);
      ASSIGN,ATRIB(8)=RNORM(2160,120)-ATRIB(7);
;     TRANSPORTATION RATE OF(3 DAYS +-2 HOURS)-TIME IN SYSTEM=EXCESS TRANSPORT
;
;
;     Personnel are held at this activity until the air transportation
;     waiting requirement has been satisfied.
```

```
;
      GOON,1;
      ACT/81;     COMPLETED PROCESSING
;
; ************TRANSPORTATION CAPACITY CHECK************
;
;
;     Version 1.0 limits available air transportation to 32,000 seats per
;     time period.
;
      GOON,1;
      ACT/82,,NNCNT(86).LE.32000,G1;GET TRANSPORTED
      ACT/83,,NNCNT(86).GT.32000,T1;RAN OUT OF TRANSPORTATION
;
;**********PROCESS EXCESS TRANSPORTATION TIME IF ANY********
;
G1    GOON,1;
      ACT/84,ATRIB(8),ATRIB(8).GT.0.0;    WAITING    TRANSPORTATION
      ACT/85,,ATRIB(8).LE.0.0;          NOT WAITING
;
      GOON;
      ACT/86;  COMPLETE TRANSPORT
;
;     EVENT 2 loops through the FORTRAN programs to store the SLAM
;     output in an array.
;
      EVENT,2;
;
;
;     T2 statement allows simulation to continue.

 T2   TERM;
;
;     EVENT 2 loops through the FORTRAN programs to store the SLAM
;     output in an array.
;
      EVENT,2;
;
;
;     T2 statement allows simulation to continue.
;
T2    TERM;
;
;
;     T1  statement terminates program.
;
T1    TERM,1;
      ENDNETWORK;
;
;     The MONTR statement is set differently for time period and type
;     processing operation.
;
```

```
;       For CRC and time period 1, set at 720 (one 12 hour day) for the
;        zero day.
;
;       For CRC and time period 2-18, set at the time it takes for the first
;       entity to exit the system.  For Version 1.0, this is 2160 (air trns
;       wait time).
;
;       For RPL and time period 1, comment out MONTR statement.  It is not
;       required.
;
;       For RPL and time period 2-18, set at 1110, the time required to process
;       all the processing stations.
;
        MONTR,CLEAR,720;
FIN;
```

MONTR CLEARS STATS AT 720 FOR CRC1 AND AT 2160 FOR CRC2.DAT - CRC18. THIS ALLOWS THE SYSTEM TO REACH A STEADY STATE FOR 2-18

6.9 RPL MODEL SPECIFIC PROGRAMS

6.9.1 FORTRAN PROGRAMS SUPPORTING SLAM II RPL CO PROGRAMS - PROGRAM MAIN

```
C*************************************************************************
C  Program Name: RPLEXE                          Date: 12-03-1990
C
C  File Name:     RPLNPUT.F
C
C  Programmer:  Beth A. Wilson, SAIC, (703)749-8771
C
C Description:  FORTRAN programs supporting SLAM II CRC program
C                Program MAIN which includes CRC Subroutine INTLC,
C                Subroutine EVENT, Subroutine OTPUT.
C
C  Input:   ASETS.TMP
C
C  Output:  TRSLT.TMP
C
C*************************************************************************
C  Modifications:       (STATUS:  P  - PROPOSED;  R - REQUIRED;
C - COMPLETED)
C
C  Number  Status  Date:     Description:          Initials
C
C     01           12-03-90    Modified Subroutine EVENT  such     BAW
C                              that all data records in the
C                              file: ASETS.TMP would be read
C                              and the accumulated strencth
C                              would be calculated and passed
C                              back to the SLAM II program
C                              QUEUE for unbatching and process-
C                              ing in the CRC model.
C
C     02           01-30-91    Documentation of arious  calcula-   BAW
C                              tions  and procedures.
C
C*************************************************************************

            PROGRAM MAIN
C
C
C                              * * * * * * * * * * * * * * *
C                              *                           *
C                              *     SLAM II VERSION 4.03  *
C                              *                           *
C                              * * * * * * * * * * * * * * *
C
C
C
C
      DIMENSION NSET(1800000)
```

```
      PARAMETER (KVACP1=1,KVACP2=2,KVALEN=3,KVACAP=4,KVADIR=5,KVANTx=6,
     $ KVANCO=7,KVASTO=8,KVAMNO=9,KVATLU=10,KVAPFE=11,KVAPLE=12,
     $ KVCSPR=1,KVCNWL=2,KVCPFE=3,KVCPLE=4,KVCMXL=5,KVCPPL=6,
     $ KVCCRC=7,KVCNTE=8,KVCCST=9,KVCSTB=10,KVCTLU=11,KVCVCO=12,
     $ KVCRRC=13,KVCCPI=14,KVSESP=1,KVSLSP=2,KVSACC=3,KVSDEC=4,KVSLEN=5,
     $ KVSBUF=6,KVSCKZ=7,KVSIFL=8,KVSJRQ=9,KVSINI=10,KVSREP=11,
     $ KVSNTL=12,KVSNTU=13,KVSNUL=14,KVSNUU=16,KVSNUE=18,KvSNUF=20,
     $ KV8NUC=22,KVSNUS=24,KVSTE=26,KVSSTF=27,KVSTLU=28,KVSPFE=29,
     $ KVSPLE-30,KVSPAL=31,KVSNOV32,KVUPV8=1,KVUCSG=2,KVUCCP=3,
     $ KVUICP=4,KVUDCP=5,KVUPCL=6,KVUVMO=7,KVUCSI=8,KVUSPD=9,KVUCBF=10,
     $ KVUCBT=11,KVUTLU=12,KVUSCP=13,KVUSHT=14,KVUNTL=15,KVUSPT=16,
     $ KVFVSI=4,KVWIFL=4,KVWVSI=5,KVWVRQ=6,KVWVRE=7,
     $ KVWCPI=8,KVMCPI=4,KVANWF=13,KVCNWF=15,KVFNWF=5,KVMNWF=4,
     $ KVSNWF=33,KVUNWF=15,KVWNWF=8)
      PARAMETER (MXMSG=250)
      PARAMETER (MXPOUT=6)
      INCLUDE 'PARAM.INC'
      COMMON/SCOM1/ATRIB(MATRB), DD(MEQT), DDL(MEQT), DTNOW, II,
     1MFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, NTAPE, SS(MEQT),
     2SSL(MEQT),TNEXT, TNOW, XX(100)
      COMMON QSET(1800000)
      EQUIVALENCE  (NSET (1),QSET(1))
      NNSET=1800000
      NCRDR=5
      NPRNT=6
      NTAPE=7
      OPEN(UNIT=NCRDR,FILE='fort.5')
      OPEN(UNIT=NPRNT,FILE='fort.6')
      CALL SLAM
      STOP
      END
```

```
C*************************************************************************
C
C  Subroutine:  INTLC
C
C  Description: Initializes SLAM II variables.
C
C*************************************************************************

      SUBROUTINE INTLC

      INCLUDE 'PARAM.INC,

      CHARACTER*2 TP

      INTEGER TTFIN

      REAL ATRIB(5),ATRIB(12)
      COMMON/SCOM1/ATRIB(MATRB), DD(MEQT), DDL(MEQT), DTNOW, II,
     1MFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, NTAPE, SS(MEQT),
     2SSL(MEQT),TNEXT, TNOW, XX(100)

*  Initialize SLAM II variables.

      ATRIB(1)=0.
      ATRIB(2)=0.
      ATRIB(3)=0.
      ATRIB(4)=0.
      ATRIB(5)=0.
      ATRIB(9)=0.
      ATRIB(10)=0.
      ATRIB(11)=0.
      ATRIB(12)=0.
      IF (TP.EQ. 01')THEN
        TTFIN = 7200
        GOTO 999
      ELSE
        TTFIN = 7680
*       MONTR,CLEAR,480;
      ENDIF

 999  CALL ENTER(1,ATRIB)

      RETURN
      END
```

```
C*************************************************************************
C
C  Subroutine:  EVENT
C
C Description: Reads in all data from ASETS.TMP file.
C
*************************************************************************

      SUBROUTINE EVENT(I)

      DIMENSION CRCTRANS(18,67,7,8),CBGTRANS(18,67,7)
      INCLUDE 'PARAM.INC'

      INTEGER NDEX,STR,CRCTRANS,CBGTRANS,CRC1CNT,CRC2CNT,CRC3CNT,
     &CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT

      REAL CRC1TIM,CRC2TIM,CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,
     &CRC7TIM,CRC8TIM,CRC1DLY,CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY,
     &CRC6DLY,CRC7DLY,CRC8DLY,C1AVGTIM,C2AVGTIM,C3AVGTIM,
     &C4AVGTIM,C5AVGTIM,C6AVGTIM,C7AVGTIM,C8AVGTIM,C1AVGDLY,
     &C2AVGDLY,C3AVGDLY,C4AVGDLY,C5AVGDLY,C6AVGDLY,C7AVGDLY,
     &C8AVGDLY

      CHARACTER CBG*5,SEX*1,ASETYPE*3,TP*2,BRC*3,TYPE*4

      COMMON/SCOM1/ATRIB(MATRB), DD(MEQT), DDL(MEQT), DTNOW, II,
     1MFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, NTAPE, SS(MEQT),
     2SSL(MEQT),TNEXT,TNOW, XX(100)
      COMMON/UCOM1/CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,NDEX
      COMMON/CRARY/CRCTRANS,CBGTRANS,CRC1CNT,CRC2CNT,CRC3CNT,
     &CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT,CRC1TIM,CRC2TIM,
     &CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,CRC7TIM,CRC8TIM,CRC1DLY,
     &CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY,CRC6DLY,CRC7DLY,CRC8DLY,
     &C1AVGTIM,C2AVGTIM,C3AVGTIM,C4AVGTIM,C5AVGTIM,C6AVGTIM,
     &C7AVGTIM,C8AVGTIM,C1AVGDLY,C2AVGDLY,C3AVGDLY,C4AVGDLY,
     &C5AVGDLY,C6AVGDLY,C7AVGDLY,C8AVGDLY

      GOTO (1,2),I

*  Open input file:  ASETS.TMP, read entire file.
*  Open output file: ASETS2.TMP and stores the ASETS.TMP such
*  that the time period, branch and type are concatenated to
*  a nine character code.

  1   OPEN(30,FILE='/home/warpam/iofiles/ASETS.TMP',STATUS='OLD')
      OPEN(31,FILE='/home/warpam/iofiles/ASETS2.TMP,,STATUS='OLD')


      READ(30,14,ERR=20,END=25)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
  14  FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,3X,A3,3X,A4,3X,I6)

*     WRITE(6,14)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
```

```
      WRITE(31,15)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
 15   FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,A3,A4,3X,16)

*  Assign entity attribute Values.

      ATRIB(1)=CBG
      ATRIB(2)=SEX
      ATRIB(3)=ASETYPE

*  Converts character string into an integer Value and
*  assigns it to the appropriate attribute ATRIB().

      NTP=0
      NBRC=0
      NTYPE=0

      DO 16 IJ=1,2
        II=ICHAR(TP(IJ:IJ))
        NUM=(79-(127-II))
        IF(IJ.EQ.1)NUM=NUM*10
        IF(IJ.EQ.2)NUM=NUM*1
        NTP=NTP+NUM
 16   CONTINUE
      ATRIB(4)=NTP

      ATRIB(5)=STR

      DO 17 J=1,3
        IF(J.EQ.1)GOTO 17
        II=ICHAR(BRC(J:J))
        NUM=(79-(127-11))
        IF(J.EQ.2)NUM=NUM*10
       IF(J.EQ.3)NUM=NUM*1
       NBRC=NBRC+NUM
17    CONTINUE
      ATRIB(9)=NBRC

      DO 18 K=1,2
        IF(K.EQ.1)GOTO 18
        II=ICHAR(TYPE(K:K))
        NUM=(79-(127-11))
        IF(K.EQ.2)NTYPE=NUM
18    CONTINUE
      ATRIB(10)=NTYPE

      GOTO 9999

20    WRITE(6,*),ERROR READING FILE:  ASETS.TMP'
25    CLOSE(30,STATUS=,KEEP')
                        CLOSE(31,STATUS='KEEP,)
                        XX(1)= 1.0
```

```
 9999  RETURN

*  Begins processing EVENT(I) a second time and stores shipped
*  persons into an array.

 2     XTP = ATRIB(4)
       XBRC= ATRIB(9)
       XTYPE=ATRIB(10)

       ITP = (NINT(XTP))
       IBRC =(NINT(XBRC))
       ITYPE=(NINT(XTYPE))

       NDEX=ATRIB(11)

       CRCTRANS(ITP,IBRC,ITYPE,NDEX)=CRCTRANS(ITP,IBRC,ITYPE,NDEX)+1
       CBGTRANS(ITP,IBRC,ITYPE)=CBGTRANS(ITP,IBRC,ITYPE)+1

       XTIM = ATRIB(7)
       XDLY = ATRIB(8)

       IF (NDEX.EQ.1)THEN
         CRCICNT = CRCICNT + 1
         CRCITIM = CRCITIM + XTIM
         CRCIDLY = CRCIDLY + XDLY
       ENDIF

       RETURN
       END
```

```
C*****************************************************************
C
C     Subroutine:  OTPUT
C
C     Description: Generates an output file called TRSLT.TMP.
C
C*****************************************************************

      SUBROUTINE OTPUT

      DIMENSION    CRCTRANS(18,67,7,8),CBGTRANS(18,67,7)     1NCLUDE
      'PARAM.1NC'

      INTEGER NDEX,STR,NTP,NBRC,NTYPE,CRCTRANS,CBGTRANS,
     &CRC1CNT,CRC2CNT,CRC3CNT,CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,
     &CRC8CNT

      REAL CRC1T1M,CRC2TIM,CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,
     &CRC7T1M,CRC8T1M,CRC1DLY,CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY,
     &CRC6DLY,CRC7DLY,CRC8DLY,C1AVGT1M,C2AVGT1M,C3AVGT1M,C4AVGT1M,
     &C5AVGT1M,C6AVGT1M,C7AVGTIM,C8AVGTIM,C1AVGDLY,C2AVGDLY,
     &C3AVGDLY,C4AVGDLY,C5AVGDLY,C6AVGDLY,C7AVGDLY,C8AVGDLY

      CHARACTER CBG*5,SEX*1,ASETYPE*3,TP*2,BRC*3,TYPE*4

      COMMON/SCOM1/ATR1B(MATRB),DD(MEQT),DDL(MEQT),DTNOW,1I,
     1MFA,MSTOP,NCLNR, NCRDR, NPRNT, NNRUN, NNSET, SS(MEQT),
     2SSL(MEQT),TNEXT,TNOW, XX(100)
       COMMON/UCOM1/CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,NDEX
       COMMON/CRARY/CRCTRANS,CBGTRANS,CRC1CNT,CRC2CNT,CRC3CNT,
     &CRC4CNT,CRC5CNT,CRC6CNT,CRC7CNT,CRC8CNT,CRC1T1M,CRC2T1M,
     &CRC3TIM,CRC4TIM,CRC5TIM,CRC6TIM,CRC7TIM,CRC8TIM,CRC1DLY,
     &CRC2DLY,CRC3DLY,CRC4DLY,CRC5DLY CRC6DLY,CRC7DLY,CRC8DLY,
     &C1AVGT1M,C2AVGT1M,C3AVGT1M,C4AVGT1M,C5AVGT1M,C6AVGTIM,
     &C7AVGTIM,C8AVGTIM,C1AVGDLY,C2AVGDLY,C3AVGDLY,C4AVGDLY,
     &C5AVGDLY,C6AVGDLY,C7AVGDLY,C8AVGDLY

      LOGICAL THERE

*  Checks to see if output file:  TRSLT.TMP exists.  If the
*  file exist, then the old file is deleted and a new file
*  is then opened.

      INQUIRE(FILE=,/home/warpam/iofiles/TRSLT.TMP,,EXIST=THERE)
      IF (THERE)THEN
        OPEN(32,FILE='/home/warpam/iofiles/TRSLT.TMP,,STATUS='OLD')
        CLOSE(32,STATUS='DELETE')
      ENDIF

      OPEN(32,FILE='/home/warpam/iofiles/TRSLT.TMP',STATUS='NEW')
      OPEN(31,FILE='/home/warpam/iofiles/ASETS2.TMP',STATUS='OLD')
```

```
 11    READ(31,12,ERR=17,END=18)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR
 12    FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,A3,A4,3X,16)

       NTP=0
       NBRC=0
       NTYPE=0

       DO 13 JJ=1,2
         II=ICHAR(TP(JJ:JJ))
         NUM=(79-(127-II))
         IF(JJ.EQ.1)NUM=NUM*10
         IF(JJ.EQ.2)NUM=NUM*1
         NTP=NTP+NUM
 13    CONTINUE

       DO 14 KK=1,3
         IF(KK.EQ.1)GOTO 14
         II=ICHAR(BRC(KK:KK))
         NUM=(79-(127-II))
         IF(KK.EQ.2)NUM=NUM*10
         IF(KK.EQ.3)NUM=NUM*1
         BRC=NBRC+NUM
14     CONTINUE

       DO 15 LL=1,2
         IF(LL.EQ.1)GOTO 15
         II=ICHAR(TYPE(LL:LL))
         NUM=(79-(127-II))
         IF(LL.EQ.2)NTYPE=NUM
 15     CONTINUE

*      WRITE(6,16)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,
*     &CBGTRANS(NTP,NBRC,NTYPE)
       WRITE(32,16)CBG,SEX,ASETYPE,TP,BRC,TYPE,STR,
      &CBGTRANS(NTP,NBRC,NTYPE)
 16    FORMAT(2X,A5,4X,A1,4X,A3,3X,A2,A3,A4,3X,16,3X,16)

       GOTO 11

17     WRITE(6,*)'ERROR READING FILE:  ASETS2.TMP'
18     CLOSE(31,STATUS='KEEP')
       CLOSE(32,STATUS='KEEP')

*  Calculate averave processing time and average delay
*  for each CRC (CRC1 thru CRC8).
       C1AVGTIM = CRC1TIM/CRC1CNT
       C1AVGDLY = CRC1DLY/CRC1CNT

       WRITE(6,20)
 20    FORMAT(//15X,'AVERAGE TIME FOR THIS TIME PERIOD',//3X,
      &' CRC',4X,'COUNT',8X,'AVG. PROCESSING TIME',8X,
      &'AVG. DELAY TIME,,/)
```

```
      WRITE(6,21)CRC1CNT,C1AVGTIM,C1AVGDLY
21    FORMAT(3X,'I ',4X,I5,10X,F10.1,16X,F10.1)


      RETURN
      END
```

6.9.2 RPLBN MODEL PROCESSING FLOW

Figure 11 depicts the processing flow within the SLAM II portion of the RPLBN model.

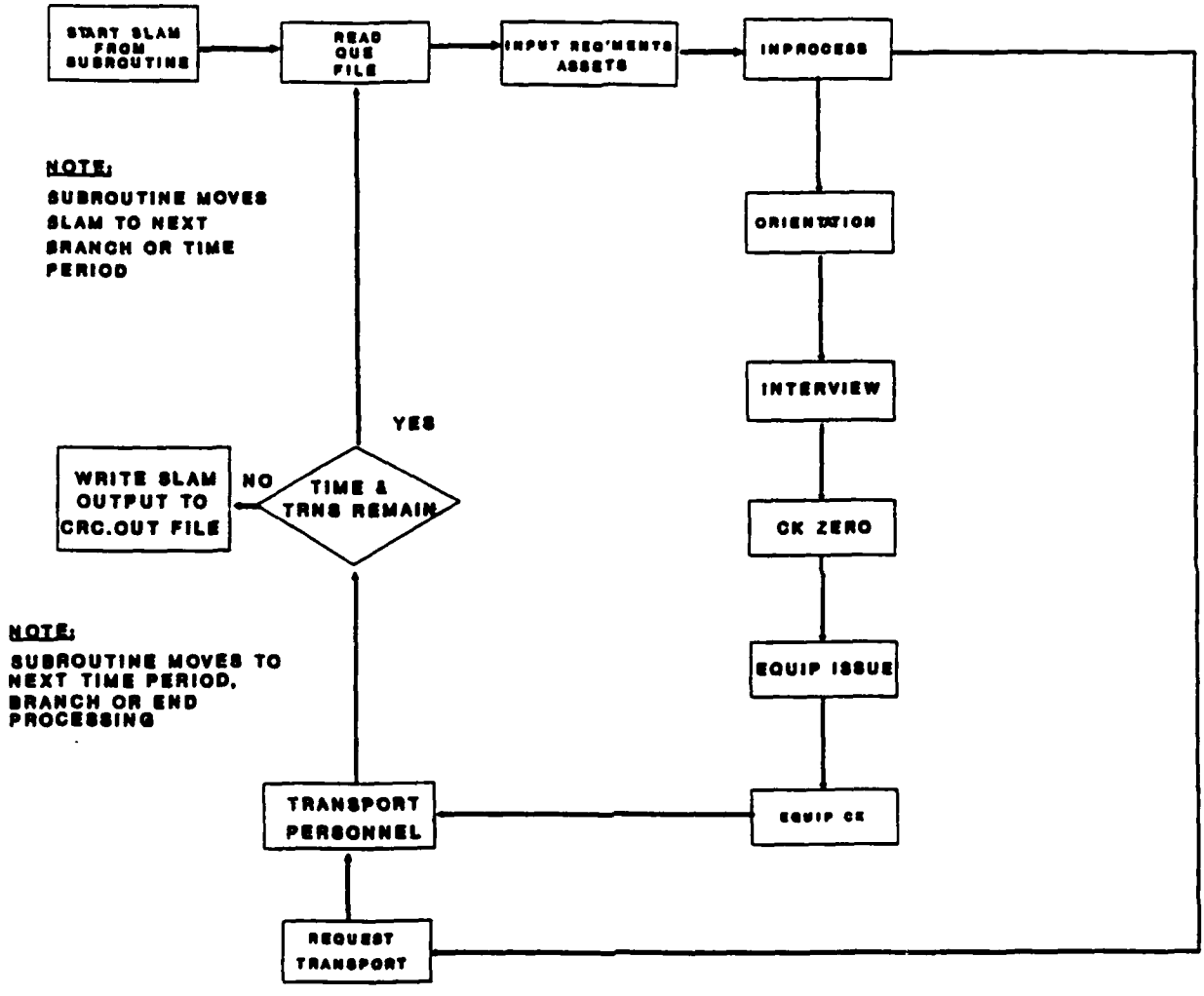


FIGURE 11: RPLBN SLAM II PROCESSING

6.9.3 RPLBN SLAM II PROGRAMS

THE RPLBN SIMULATION IS CONFIGURED VERY SIMILAR TO THE CRC MODEL, BUT WITH ONLY 6 STATIONS WITH DIFFERENT ACTIVITIES AND DURATIONS. EACH STATION IS CONFIGURED TO ALLOW CONTINUOUS FLOW WITHOUT REQUIRING A BATCH MOVEMENT FROM ONE STATION TO THE NEXT.

THE RPLBN MODEL HAS TIME AND TRANSPORTATION CONSTRAINTS, BUT THE TRANSPORTATION CONSTRAINT HAS BEEN IN ESSENCE INACTIVATED BY SETTING IT AT 99,999 CAPACITY. THERE IS NO FUNCTION FOR TRANSPORTATION DELAY.

```
;*************************************************************************
;     SLAM II VARIABLES
;     ATRIB(1) = CAT/BRANCH AND GRADE ACROYMN
;     ATRIB(2) = MALE OR FEMALE
;     ATRIB(3) = ASSET TYPE
;     ATRIB(4) = TIME PERIOD
;     ATRIB(5) = REQUIREMENT ASSET QUANTITY
;     ATRIB(6) = ARRIVAL TIME TO CRC
;     ATRIB(7) = TOTAL TIME IN THE CRC
;     ATRIB(8) = EXCESS TRANSPORTATION TIME OF (72 hours +- 40 hours)
;     ATRIB(9) = BRANCH INDEX
;     ATRIB(10)= TYPE ASSET INDEX
;     ATRIB(11)= CRC  INDEX
;     ATRIB(12)= COUNTER TO COLLECT  STATISTICS
;
;*************************************************************************
;
GEN,WILSON/WOJCIK/FRAME,WARPAM/VERSION II. 1/30/91,,N,N,Y/N,N,Y/F,72;
LIMITS,15,14,80000;
EQUIVALENCE/ATRIB(1),CBG;
EQUIVALENCE/ATRIB(2),SEX;
EQUIVALENCE/ATRIB(3),ASETYPE;
EQUIVALENCE/ATRIB(4),TP;
EQUIVALENCE/ATRIB(5),STR;
EQUIVALENCE/ATRIB(9),BRC;
EQUIVALENCE/ATRIB(10),TYPE;
;
;     The INIT statement sets the length of the simulation for CRC
;     and time period 1.  It is set in minutes at 7919 (11 days)
;     (actually one minute ;less) to represent 1 zero day and 10
;     processing days.
;
;     For CRC and time periods 2-18, it is set at 10059 representing
;     the same 11 days plus the time required to fill the system for
;     steady state operation which for version 1.0 of WARPAM is 3 days
;     (2160 min) which is the time the first entities would be available
;     to exit the system.
;
;     For RPL and time period 1, it is set at 7200 representing 10 days.
;
```

```
;     For RPL and time period 2-18, it is set at 9009 representing 13 days
;     (10 processing days and 1110 min., the time required to complete
;     processing the 6 stations in RPL version 1.0).
;
INIT,,7200;     INIT SET AT 7200 FOR RPL1.DAT
NETWORK;        INIT SET AT 7590 FOR RPL2.DAT - RPL18.DAT
;
;                        *** REPLACEMENT OPERATION BEGINS!!!!! ***
;
      ENTER,1;
;     EVENT 1 clones the incoming entities.  One entity moves through the
;     normal system and one is returned to the FORTRAN program where it
;     causes the next line to be read and then is destroyed.
;
LOOP  EVENT,1;
      GOON,2;
      ACT,,XX(1).EQ.0.0;
      ACT,,XX(1).EQ.0.0,LOOP;  READ IN NEXT LINE
      ACT,,XX(1).EQ.1.0,T2;    TERMINATE DUPLICATE OF LAST ASSET LINE
;
      GOON;
      ACT/15;  NUMBER OF ENTITIES
      GOON;
      UNBATCH,5;
;
      GOON;
;     ASSIGN,ATRIB(6)=TNOW;
      GOON:
;
;********          OCONUS REPLACEMENT ACTIVITY          ********
;
      QUEUE(1),,2,BLOCK;
      ACT(2)/1,RNORM(30,5);              RPL INPROCESSING/INTERVIEW
      QUEUE(2),,50,BLOCK;
      ACT(50)/2,RNORM(60,10);            RPL ORIENTATION
      QUEUE(3),,50,BLOCK;
      ACT(2)/3,RNORM(30,5);              RPL EQUIP/DRAW
      QUEUE(4),,100,BLOCK;
      ACT(100)/4,RNORM(480,20);          RPL CHECK ZERO
      QUEUE(5),,50,BLOCK;:
      ACT(50)/5,RNORM(480,20);           RPL EQUIPMENT ISSUE
      QUEUE(6),,50,BLOCK;
      ACT(4)/6,RNORM(30,5);              RPL EQUIP/CHECK
```

```
;-------------------------------------------------------------------------

PROGRAMMER'S NOTE:  THE FOLLOWING SECTION REGARDING A MINIMUM
PROCESSING TIME HAS BEEN RETAINED, BUT COMMENTED OUT SHOULD TRAC-FBHN
DESIRE TO REINSTATE A DELAY.  THE TRANSPORTATION CAPACITY SECTION WAS
NOT COMMENTED OUT, BUT SET AT 99,000 WHICH EFFECTS NO CONSTRAINT.
A TRANS CONSTRIANT CAN BE ADDED BY CHANGING THIS NUMBER TO LOWER
FIGURE.  THE MONTR STATEMENT WAS ALSO COMMENTED OUT FOR THE SAME REASON

;
;     TIME IN SYSTEM CALCULATION & EXCESSIVE TRANSPORT TIME CALCULATION
;EXIT  ASSIGN,ATRIB(7)=TNOW-ATRIB(6);
;      ASSIGN,ATRIB(8)=RNORM(2160,120)-ATRIB(7);
;     TRANSPORTATION RATE OF(3 DAYS +-2 HOURS)-TIME IN SYSTEM=EXCESS TRANSPORT
;
;
;     Personnel are held at this activity until the air transportation
;     waiting requirement has been satisfied.
;
      GOON,1;
      ACT/8;       COMPLETED PROCESSING

; ************TRANSPORTATION CAPACITY CHECK************
;
;
;     Version 1.0 limits available air transportation to 99,999 seats per
;     time period.
;
      GOON,1;
      ACT/9,,NNCNT(13).LE.99999,G1;GET TRANSPORTED
      ACT/10,,NNCNT(13).GT.99999,T1;RAN OUT OF TRANSPORTATION
;
;**********PROCESS EXCESS TRANSPORTATION TIME IF ANY********
;G1    GOON,1;
;     ACT/11,ATRIB(8),ATRIB(8).GT.0.0; WAITING TRANSPORTATION
;     ACT/12,,ATRIB(8).LE.0.0;         NOT WAITING
;
      GOON;
G1    ACT/13:  COMPLETE TRANSPORT
;
;     EVENT 2 loops through the FORTRAN programs to store the SLAM
;     output in an array.
;
      EVENT,2;
;
;
;     T2 statement allows simulation to continue.
;
T2    TERM;
;
;
;     T1  statement terminates program.
```

```
;
T1      TERM,1;
        ENDNETWORK;
;
;       The MONTR statement is set differently for time period and type
;       processing operation.
;
;       For CRC and time period 1, set at 720 (one 12 hour day) for the
;        zero day.
;
;       For CRC and time period 2-18, set at the time it takes for the first
;       entity to exit the system.  For Version 1.0, this is 2160 (air trns
;       wait time).
;
;       For RPL and time period 1, comment out MONTR statement.  It is not
;       required.
;
;       For RPL and time period 2-18, set at 1110, the time required to process
;       all the processing stations.
;
;       MONTR,CLEAR,720;
FIN;
```

MONTR CLEAR SET INACTIVE FOR RPL1.DAT
FOR RPL2.DAT - RPL18.DAT IT IS SET AT
390 MIN, THE MEAN TIME TO PROCESS STATIONS

SECTION 7
TRANSPORTATION MODEL

7.1 GENERAL

The Transportation Model is designed to represent the macro-level flow of personnel replacements through the CRC(s) and a specified OCONUS Replacement battalion (RPLBN). The model matches the replacement flow through the CRC and RPLBN to determine if these organizations can meet the requirements for a theater and if the flow is balanced through the two facilities. Statistics are provided regarding the replacement requirement satisfied and the difference in flow capacities of these facilities. The model uses the output files from a CRC model run and a RPLBN model run. The files selected should be based on the same requirement file and number of time periods to produce meaningful results. Currently, the user can select the any of the single theater requirement files: Europe (AE1), Korea (AKO), maximum flow (MAX) or either of the CSM II files (CST or CSB).

7.2 INITIATION

The Transportation Model is initiated through user input from a Sun window which activates the FORTRAN program. This window is reached by using the WARPAM Executive Windows Program which allows the user to reach any module by simply placing the workstation mouse over the appropriate window. To initiate the model, the user must type "go" on the response line to advance to the first input variable. This input line ONLY ACCEPTS the word "go" in small case letters.

7.3 INPUT FILES

The files which must be present on the workstation before the model can be run are listed with the code description below.

7.4 INPUT VARIABLES

The user is prompted by the input screen to input the desired value of the following variables on a response line: (input variables from previous runs are shown on the input screen prior to the first response)

CRC: The user must select a CRC output file from those stored in the IOFILE sub-directory.

REPL BN: The user must select a Replacement Battalion output file from those stored in the IOFILE sub-directory.

7.5 PROCESSING

The Transportation Model, written in FORTRAN, reads the output files from designated CRC and RPL BN runs and writes portions of these to a file with the MODRQAST.TBL. The result is an output which allows the user to compare the flow through a CRC and a RPL BN. The model also computes statistics on the systems ability to meet the demand based on the RPL BN flow and on the difference between the CRC and RPL BN flows. To accomplish this the model reads the required data from the two output files and appends these to the MODRQAST.TBL. Statistics are calculated following these reads.

7.6 OUTPUT REPORTS

Output reports are generated for each run of the model. These reports which are automatically translated to DOS by the TRAC-FBHN system are available to the user through DBASE III on a standard PC in a LAN configuration with the workstation or in the Sun DOS window program.

7.7 TRANSPORTATION MODEL FORTRAN PROGRAMS

```
C*************************************************************************
****
C
C  Program Name:  TRANSP                          Date:  06-15-1990
C
C  File Name:     TRANSPRT.FOR
C
C  Programmer:    Beth White, SAIC, 749-8771
C
C  Description:   Reads input files:  CRC---.OUT and RPF---.OUT
C                 (i.e. CRCDEG.OUT , RPLAE1.OUT) and produces
C                 a transportation output file.  Calculations
C                 performed a flow difference and theater percent.
C
C  Input:         CRC---.OUT
C                 RPL---.OUT
C
C  Output:        TRANS.OUT
C
C*************************************************************************
C  Modifications:  (STATUS:  P - PROPOSED; R - REQUIRED ; C - COMPLETED)
C
C  Number   Status  Date:           Description:             Initials
C  ------   ------  --------  -------------------------  --------------
C
C
C*************************************************************************

      PROGRAM TRANSP

C  Global Variables

      DIMENSION VARHLD(1300,7)
      CHARACTER*1 XTCHR(58),SEX
      CHARACTER*3 TYP,RDRESP,SREQ,XCRC,XRPL,XFIL
      CHARACTER*4 XTEND
      CHARACTER*5 CATBRG
      CHARACTER*6 REQT,REQFIL,CRCXTN,RPLXTN
      CHARACTER*9 TP,VARHLD
      CHARACTER*10 CRCF,RPLF
      CHARACTER*21 FILH
      CHARACTER*31 CRCFIL,RPLFIL
      CHARACTER*58 XCHR
      CHARACTER*69 HEAD1
      CHARACTER*70 HEAD0
      CHARACTER*72 HEAD2

      LOGICAL THERE

      REAL THTRP
```

```
      INTEGER I,J,LL,NN,NCHK,ICHK,MAXCNT,RQMT,CRCFLO,RPLFLO,DELFLO

      EQUIVALENCE (XTCHR(1),XCHR)

C  Local Variables

      I = 0
      J = 0
      NN = 0
      NCHK = 0
      ICHK = 0
      XTEND = '.OUT'
      FILH = '/home/warpam/iofiles/'

C  Begin TRANSPRT.FOR

C  Begin Menu Screen

      WRITE(6,9)
  9   FORMAT(/////20X,'**********************************',
     &/20X,'**********************************',//20X,
     &'    WARPAM TRANSPORTATION MODEL       ',//20X,
     &'**********************************',/20X,
     &'**********************************',///////20X,
     &'THE FOLLOWING FILES ARE NEEDED:',/30X,
     &'CRC---.OUT   {i.e. CRCDEG.OUT}',/30X,
     &'RPL---.OUT   {i.e. RPLAE1.OUT}',//////////)

      PAUSE

      WRITE(6,10)
 10   FORMAT(////////////////////////////////////////)

C  End Menu Screen

C  Input Variable (CRC File:  CRC---.OUT)

 111  WRITE(6,11)
 11   FORMAT(//10X,'ENTER CRC REQUIREMENT FILE:',/10X,
     &'REQUIREMENTS:  (MAX,DEG,AE1,AKO,ASW,CST,CSB)')
      SREQ = 'XXX'
      XFIL = 'CRC'
      READ(*,*)RDRESP

      IF ((RDRESP.EQ.'MAX').OR.(RDRESP.EQ.'max'))SREQ = 'MAX'
      IF ((RDRESP.EQ.'DEG').OR.(RDRESP.EQ.'deg'))SREQ = 'DEG'
      IF ((RDRESP.EQ.'AE1').OR.(RDRESP.EQ.'ae1'))SREQ = 'AE1'
      IF ((RDRESP.EQ.'AKO').OR.(RDRESP.EQ.'ako'))SREQ = 'AKO'
      IF ((RDRESP.EQ.'ASW').OR.(RDRESP.EQ.'asw'))SREQ = 'ASW'
      IF ((RDRESP.EQ.'CST').OR.(RDRESP.EQ.'cst'))SREQ = 'CST'
      IF ((RDRESP.EQ.'CSB').OR.(RDRESP.EQ.'csb'))SREQ = 'CSB'
      IF (SREQ.EQ.'XXX')GOTO 111
```

```
      XCRC = SREQ
      CRCXTN = XFIL // SREQ
      CRCF = CRCXTN // XTEND
      CRCFIL = FILH // CRCF

C  Input Variable (RPL File:  RPL---.OUT)

 112  WRITE(6,12)
 12   FORMAT(//10X,'ENTER RPL REQUIREMENT FILE:',/10X,
     &'REQUIREMENTS:  (MAX,DEG,AE1,AKO,ASW,CST,CSB)')
      SREQ = 'XXX'
      XFIL = 'RPL'
      READ(*,*)RDRESP

      IF ((RDRESP.EQ.'MAX').OR.(RDRESP.EQ.'max'))SREQ = 'MAX'
      IF ((RDRESP.EQ.'DEG').OR.(RDRESP.EQ.'deg'))SREQ = 'DEG'
      IF ((RDRESP.EQ.'AE1').OR.(RDRESP.EQ.'ae1'))SREQ = 'AE1'
      IF ((RDRESP.EQ.'AKO').OR.(RDRESP.EQ.'ako'))SREQ = 'AKO'
      IF ((RDRESP.EQ.'ASW').OR.(RDRESP.EQ.'asw'))SREQ = 'ASW'
      IF ((RDRESP.EQ.'CST').OR.(RDRESP.EQ.'cst'))SREQ = 'CST'
      IF ((RDRESP.EQ.'CSB').OR.(RDRESP.EQ.'csb'))SREQ = 'CSB'
      IF (SREQ.EQ.'XXX')GOTO 112

      XRPL = SREQ
      RPLXTN = XFIL // SREQ
      RPLF = RPLXTN // XTEND
      RPLFIL = FILH // RPLF

C  Checks to see if input files exist.  If input files do not
C  exist, a message is written to inform user that file was not
C  found and terminates the program.

      INQUIRE(FILE=CRCFIL,EXIST=THERE)
      IF (.NOT.THERE)THEN
         NCHK = 1
         WRITE(6,13)CRCF
  13     FORMAT(///5X,'ERROR - CRC file:  ',1X,A10,1X,'was not found.')
      ENDIF

      INQUIRE(FILE=RPLFIL,EXIST=THERE)
      IF (.NOT.THERE)THEN
         NCHK = 1
         WRITE(6,14)RPLF
  14     FORMAT(///5X,'ERROR - RPL file:  ',1X,A10,1X,'was not found.')
      ENDIF

      IF (NCHK.EQ.1)THEN
         WRITE(6,113)
 113     FORMAT(///////5X,'**** TRANSPORTATION ANALYSIS TERMINATED ****
     &')
         GOTO 999
      ENDIF
```

```
      IF (XRPL.NE.XCRC)THEN
         WRITE(6,114)
  114    FORMAT(//////5X,'You have chosen two different requirement file
     &s.',/5X,'The requirements which will be used in the',/5X,
     &'output will be from the CRC file.  The Theater',/5X,
     &'Percentage will also be calculated using the CRC file.',
     &//////)

         PAUSE

         WRITE(6,115)
  115    FORMAT(////////////////////////////////////////)

      ENDIF

C  Checks to see if input and output files exist.  If input files
C  does not exist; an error message is written and the program is
C  terminated.  If output file exists; the old output file is deleted.

      INQUIRE(FILE='/home/warpam/iofiles/TRANS.TMP',EXIST=THERE)
      IF (THERE)THEN
        OPEN(52,FILE='/home/warpam/iofiles/TRANS.TMP',STATUS='OLD')
        CLOSE(52,STATUS='DELETE')
      ENDIF

      INQUIRE(FILE='/home/warpam/iofiles/TRANS.OUT',EXIST=THERE)
      IF (THERE)THEN
        OPEN(53,FILE='/home/warpam/iofiles/TRANS.OUT',STATUS='OLD')
        CLOSE(53,STATUS='DELETE')
      ENDIF


      OPEN(50,FILE=CRCFIL,STATUS='OLD')
   15 READ(50,'(58(A1))',ERR=16,END=17)XTCHR
      I = I + 1
      IF (I.LT.4)GOTO 15

      CATBRG = XCHR(3:7)
      SEX = XCHR(12:12)
      TYP = XCHR(17:19)
      TP = XCHR(23:24)
      REQT = XCHR(35:40)
      REQFIL = XCHR(44:49)

      IF ((TYP.NE.'MAX').AND.(TYP.NE.'DEG').AND.(TYP.NE.'AE1')
     &.AND.(TYP.NE.'AKO').AND.(TYP.NE.'ASW').AND.(TYP.NE.'CST')
     &.AND.(TYP.NE.'CSB'))GOTO 15

      J = J + 1
      VARHLD(J,1) = TP
      VARHLD(J,2) = CATBRG
      VARHLD(J,3) = SEX
```

```
      VARHLD(J,4) = TYP
      VARHLD(J,5) = REQT
      VARHLD(J,6) = REQFIL
      VARHLD(J,7) = '     0'

      GOTO 15

 16   WRITE(6,*)'ERROR READING OUTPUT FILE.'
 17   CLOSE(50,STATUS='KEEP')

      MAXCNT = J
      I = 0

      OPEN(51,FILE=RPLFIL,STATUS='OLD')
 18   READ(51,'(58(A1))',ERR=21,END=22)XTCHR
      I = I + 1
      IF (I.LT.4)GOTO 18

      CATBRG = XCHR(3:7)
      SEX = XCHR(12:12)
      TYP = XCHR(17:19)
      TP  = XCHR(23:24)
      REQT = XCHR(35:40)
      REQFIL = XCHR(44:49)

      IF ((TYP.NE.'MAX').AND.(TYP.NE.'DEG').AND.(TYP.NE.'AE1')
     &.AND.(TYP.NE.'AKO').AND.(TYP.NE.'ASW').AND.(TYP.NE.'CST')
     &.AND.(TYP.NE.'CSB'))GOTO 18

      ICHK = 0
      DO 19 LL = 1,MAXCNT
         IF ((TP.EQ.VARHLD(LL,1)).AND.(CATBRG.EQ.VARHLD(LL,2)))THEN
           VARHLD(LL,7) = REQFIL
           ICHK = 1
           GOTO 20
         ENDIF
 19   CONTINUE

 20   IF (ICHK.EQ.1)GOTO 18

      IF (ICHK.EQ.0)THEN
         MAXCNT = MAXCNT + 1
         VARHLD(MAXCNT,1) = TP
         VARHLD(MAXCNT,2) = CATBRG
         VARHLD(MAXCNT,3) = SEX
         VARHLD(MAXCNT,4) = TYP
         VARHLD(MAXCNT,5) = REQT
         VARHLD(MAXCNT,6) = '     0'
         VARHLD(MAXCNT,7) = REQFIL
         GOTO 18
      ENDIF
```

```
 21   WRITE(6,*)'ERROR READING FILE'
 22   CLOSE(51,STATUS='KEEP')


C  Stores initial maxtrix to file:  TRANS.TMP

      OPEN(52,FILE='/home/warpam/iofiles/TRANS.TMP',STATUS='NEW')

      DO 24 N = 1,MAXCNT
         WRITE(52,23)VARHLD(N,1),VARHLD(N,2),VARHLD(N,3),
     &VARHLD(N,4),VARHLD(N,5),VARHLD(N,6),VARHLD(N,7)
 23      FORMAT(2X,A2,3X,A5,3X,A1,3X,A3,3X,A6,3X,A6,3X,A6)
 24   CONTINUE

      CLOSE(52,STATUS='KEEP')

C  Header Information

      HEAD0='      CAT/BR                                CRC       RPL      THE
     &ATER   FLOW'

      HEAD1=' TP   GRADE    S   THEATER    REQ       FLOW      FLOW     PER
     &       DIF'

      HEAD2='---- -------- --- --------- -------- -------- -------- ----
     &---- --------'
C            BXXBBBXXXXXBBBBXBBBBBXXXBBBBBXXXXXXBBBXXXXXXBBBXXXXXXBBB
C     &XXXXXXBBBXXXXXX

C  Read file:  TRANS.TMP and calculate theater percentage and
C  delta flow.

      OPEN(53,FILE='/home/warpam/iofiles/TRANS.OUT',STATUS='NEW')
      OPEN(52,FILE='/home/warpam/iofiles/TRANS.TMP',STATUS='OLD')

      WRITE(53,25)HEAD0,HEAD1,HEAD2
 25   FORMAT(1X,A70,/1X,A69,/1X,A72)

 26   READ(52,27,ERR=29,END=30)TP,CATBRG,SEX,TYP,RQMT,CRCFLO,RPLFLO
 27   FORMAT(2X,A2,3X,A5,3X,A1,3X,A3,3X,I6,3X,I6,3X,I6)

C  Calculate Theater Percentage.

      THTRP = REAL(RPLFLO) / REAL(RQM   * 100.0

C  Calculate Delta Flow.

      DELFLO = CRCFLO - RPLFLO

C  Writes results to output file:  TRANS.OUT

      WRITE(53,28)TP,CATBRG,SEX,TYP,RQMT,CRCFLO,RPLFLO,THTRP,DELFLO
```

```
 28   FORMAT(2X,A2,3X,A5,4X,A1,5X,A3,5X,I6,3X,I6,3X,I6,3X,F5.1,'%',
     &3X,I6)

      GOTO 26

 29   WRITE(6,*)'ERROR READING FILE:  TRANS.TMP'
 30   CLOSE(53,STATUS='KEEP')
      CLOSE(52,STATUS='DELETE')

      WRITE(6,31)
 31   FORMAT(////5X,'**** TRANSPORTATION ANALYSIS COMPLETED ****')

 999  STOP
      END

C  END TRANSPRT.FOR
```

SECTION 8
LOOK-UP TABLES

8.1 GENERAL

WARPAM was designed to enable the user and programmer to easily update the many look-up tables. This updating process is accomplished using Lotus or Symphony spreadsheets and then storing the actual table portion of the spreadsheet as ASCII files. This conversion is accomplished using the standard Lotus commands to store a spreadsheet to a file vice the printer. When entering the name the extension .tbl must be used so that the FORTRAN tables can recognize it. These tables are then stored in the IOFILES sub-directory with the other programs. Each table has a unique structure which can not be altered without also changing the FORTRAN programs which utilize it.

8.2 WARPAM BRANCH TABLE CODES:

The following is an overview of the coding system used in WARPAM to create the standard data format used throughout the system. The translation of specific data elements are accomplished by the look-up tables described in later sections.

1ST DIGIT: CATEGORY IDENTIFIER

O-OFFICER
W-WARRANT
E-ENLISTED

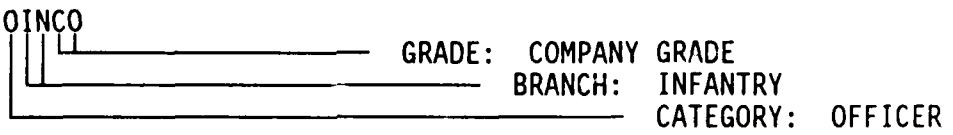
2ND & 3RD DIGITS: BRANCH IDENTIFIER

IN-INFANTRY	AR-ARMOR	FA-FIELD ARTILLERY
AD-AIR DEFENSE	AV-AVIATION	CE-ENGINEER
SC-SIGNAL/COMMO	MP-MIL POLICE	MC-MEDICAL
MI-MIL INTEL	CM-CHEMICAL	TC-TRANSPORTATION
OD-ORDINANCE	QM-QUARTERMASTER	SM-SIGNAL MAINT
MM-MECHANICAL MAINT		
CS-OTHER COMBAT SERVICE SUPPORT		

4TH & 5TH DIGIT: GRADE

FD-FIELD GRADE OFFICER (O4 THRU O9)
CO-COMPANY GRADE OFFICER (O1 THRU O3)
WW-ALL WARRANT OFFICER GRADES (W1 THRU W4)
59-ENLISTED NCO GRADES (E5 THRU E9)
14-ENLISTED SKILL LEVEL ONE GRADES (E1-E4)

EXAMPLE



8.3 BRANCH AGGREGATION TABLE

FILE NAME: BRANCH.WR1

Location: The Lotus/Symphony spreadsheet is stored on a standard PC. The table which is created must be stored on the sun workstation in the IOFILE sub-directory.

Use: The Branch Table converts officer and enlisted MOS to the standard branches used in WARPAM. This table is used by the all the FORTRAN conversion programs in the preprocessor.

Structure: As MOS are created or redesignated, the user may desire to update the file by changes branch groupings or creating new branches. However, many changes may not be required as the file is designed with "wild card" designators, noted by the *. which denotes that the branch includes any MOS with the first two characters. In those cases when an MOS could not be placed in a general category, it is shown individually. When this occurs the general category MOS will read all MOS with the first two digits as shown, except the MOS listed individually (eg all enlisted MOS 76 are grouped in quartermaster (EQM), but the special case MOS 76J is grouped with medical corps (EMC). The file is structured to have two digits, a single character (letter or *), one space and three characters for the branch code. To update the file, the desired changes should be entered manually and the file sorted on the MOS field to restore the numerical order of the file. When all changes are entered and the worksheet saved, the actual table used by the WARPAM models is extracted to file by the method described below.

Note: Wherever feasible MOS have been grouped into CMF equivalents. The table contains several MOS which have been entered twice with one entry containing the most common errors as with OOR vs OOR (ZERO ZERO ROMEO).

Conversion to table: To convert this worksheet to a table format for use in the preprocessor, the block containing the MOS and code only are saved to a print file with a .tbl extension using the normal Lotus structured commands. During the print command sequence, the user must select the Lotus command to save the table to "file" (disk) vice the normal printer command. When complete the file is loaded in the sub-directory containing the other Lotus tables.

BRANCH AGGREGATION TABLES

COMMISSIONED OFFICER

CATEGORY/BRANCH CODE SPECIFIC Specialties	BRANCHES (Specialties) INCLUDED IN CODED BRANCH
OIN 11A 11B 11C 11X 18A	BR 11 & 18
OAR 12A 12B 12C 12X	BR 12
OFA 13A 13B 13C 13D 13E	BR 13
OAD 14A 14B 14C 14D 14E	BR 14
OAV 15A 15B 15C 15D 15E	BR 15
OCE 21A 21B 21C 21D	BR 21
OSC 25A 25B 25C 25D 25E	BR 25
OMP 31A 31B 31C 31D	BR 31
OMI 35A 35B 35C 35D 35E 35F 35G	BR 35
OMC 60A 60B 60C 60D 60F 60G 60H 60J 60K 60L 60M 60N 60P 60Q 60R 60S 60T 60U 60V 60W 61A 61B 61C 61D 61E 61F 61G 61H 61J 61K 61L 61M 61N 61P 61Q 61R 61U 61W 61Z 62A 62B 63A 63B 63D 63E 63F 63H 63K 63M 63N 63P 63R 64A 64B 64C 64D 64E 64F 65A 65B 65C 66A 66B 66C 66D 66E 66F 66G 66H 66J 67A 67B 67C 67D 67E 67F 67G 67H 67J 67K 67L 68A 68B 68C 68D 68E 68F 68G 68H 68J 68K 68L 68M 68N 68P 68R 68S 68T 68U	BR 60 (60-68)
OCM 74A 74B 74C	BR 74
OTC 88A 88B 88C 88D 88E	BR 88
OOD 91A 91B 91C 91D 91E	BR 91
OQM 92A 92B 92D 92F 92G	BR 92

OCS ALL LESS THOSE LISTED ABOVE
00B 01A 02A 03A 04A 38A 39A 39B 39C 41A 42A 42B 42C 42E 44A 45A 45B 46A 46B 47A 47B 48A 48B 48C 48D 48E 48F 48G 48H 48I 48J 49A 49B 49C 49D 49E 49W 49X 50A 51A 51B 51C 51D 52A 52B 53A 53B 53C 54A 55A 55B 56A 56D 97A 97B 97C

WARRANT OFFICER

CATEGORY/BRANCH CODE SPECIFIC MOS	BRANCHES (MOS) INCLUDED IN CODED BRANCH
WCB	ALL 130, 140, 150, 180
130A 130B 131A 131B 132A 140A 140B 140C 140D 140E 150A 151A 152B 152C 152D 152F 152G 153A 153B 153C 153D 154A 154B 154C 155A 155D 155E 156A 180A	
WCS	ALL 210, 213, 215, 250, 251, 252, 256 311, 600, 640, 670 210A
213A 215A 215B 215C 215D 250A 250B 251A 252A 256A 311A 600A 640A 670A	
WCC	ALL LESS WCB & WCS
350B 350D 350L 351B 351C 351E 352C 352D 352G 352H 352J 352K 353A 420A 420C 420D 550A 880A 881A 910A 911A 912A 913A 914A 915A 915B 915C 915D 915E 920A 920B 921A 922A	

ENLISTED

CATEGORY/BRANCH CODE SPECIFIC MOS	CMF INCLUDED IN EACH CODED BRANCH
EIN	CMF 11 & 18
11B 11C 11H 11M 11Z 18B 18C 18D 18E 18F 18Z	
EAR	CMF 19
19D 19E 19K 19Z	
EFA	CMF 13
13B 13C 13E 13F 13M 13N 13P 13R 13T 13Z 15E 17B 21G 82C 93F	
EAD	CMF 16
16D 16E 16F 16G 16H 16J 16P 16R 16S 16T 16Z	

EAV CMF 67 & 93
66G 66H 66J 66N 66R 66S 66T 66U 66V 66X 66Y 67G 67H 67N 67R 67S 67T 67U 67V 67X
67Y 67Z 68B 68D 68F 68G 68H 68J 68K 68L 68N 68P 68Q 68R 93B 93C 93D 93P

ECE CMF 12, 51, 81
00B 12B 12C 12F 12Z 41B 51B 51G 51H 51K 51M 51R 51T 51Z 52E 52G 62E 62F 62G 62H
62J 62N 81B 81C 81Q 81Z 82B 82D 83E 83F

ESC CMF 31
31C 31D 31F 31G 31K 31L 31M 31N 31Q 31V 31W 31Y 31Z 36L 36M 72E 72G

EMP CMF 95
95B 95C 95D

EMI CMF 96 & 98
05D 05H 05K 96B 96D 96F 96H 96R 96Z 97B 97E 97G 97Z 98C 98G 98J 98Z

EMC CMF 91
01H 35G 35U 42C 42D 42E 71G 76J 91A 91B 91C 91D 91E 91F 91G 91H 91J 91L 91N 91P
91Q 91R 91S 91T 91U 91V 91W 91X 91Y 92B 92E 94F

ECM
54B

ETC CMF 88
88H 88K 88L 88M 88N 88P 88Q 88R 88S 88T 88U 88V 88W 88X 88Y 88Z

EOD CMF 63
41C 44B 44E 45B 45D 45E 45G 45K 45L 45N 45T 45Z 52C 52D 52F 52X 62B 63B 63D 63E
63G 63H 63J 63N 63S 63T 63W 63Y 63Z

EQM CMF 55, 76, 77, 94
43E 43M 55B 55D 55G 55R 55X 55Z 57E 57F 76C 76P 76V 76X 76Y 76Z 77F 77L 77W 94B

EMM CMF 24 & 27
24C 24G 24M 24N 24R 24S 24T 24U 25L 26H 21L 24H 24K 27B 27C 27D 27E 27F 27G 27H
27J 27K 27L 27M 27N 27V 27Z 46N

ESM CMF 29 & 33
29E 29F 29J 29M 29N 29P 29S 29T 29V 29W 29X 29Y 29Z 35H 39B 39C 39D 39E 39G 39L
39V 39W 39X 39Y 33M 33P 33Q 33R 33T 33V 33Z

ECS CMF 25, 46, 71, 74, 79 97 PLUS ANY MOS NOT LISTED ABOVE
00E 00R 00Z 02B 02C 02D 02E 02F 02G 02H 02J 02K 02L 02M 02N 02S 02T 02U 02Z 25P
25Q 25R 25S 25Z 46Q 46R 46Z 71C 71D 71E 71L 71M 73C 73D 73Z 74D 74F 74Z 75B 75C
75D 75E 75F 75Z 79D

BRANCH TABLE
(ACTUAL Lotus TABLE)

00* OCS	41* OCS	67* OMC	02* ECS	39* ESM	72* ESC
00* OCS	42* OCS	68* OMC	05* EMI	41B ECE	73* ECS
00* OCS	44* OCS	74* OCM	05* EMI	41* EOD	74* ECS
00* OCS	45* OCS	88* OTC	11* EIN	42* EMC	75* ECS
01* OCS	46* OCS	91* OOD	12* ECE	43* EQM	76J EMC
01* OCS	47* OCS	92* OQM	13* EFA	44* EOD	76* EQM
02* OCS	48* OCS	95* OTC	15* EFA	45* EOD	77* EQM
02* OCS	49* OCS	97* OCS	16* EAD	46N EMM	79D ECS
03* OCS	50* OCS	1** WCB	17* EFA	46* ECS	81* ECE
03* OCS	50* OCS	2** WCS	18* EIN	51* ECE	82C EFA
04* OCS	51* OCS	3** WCS	19* EAR	52E ECE	82* ECE
04* OCS	52* OCS	4** WCC	21G EFA	52G ECE	88* ETC
11* OIN	53* OCS	5** WCC	21* EMM	52* EOD	91* EMC
12* OAR	54* OCS	6** WCS	24* EMM	54* ECM	92* EMC
13* OFA	55* OCS	7** WCC	25L EMM	55* EQM	93F EFA
14* OAD	56* OCS	8** WCC	25* ECS	57* EQM	93* EAV
15* OAV	60* OMC	9** WCC	26* EMM	62B EOD	94F EMC
18* OIN	60* OMC	00* ECS	27* EMM	62* ECE	94* EQM
21* OCE	61* OMC	00* ECS	29* ESC	63* EOD	95* EMP
25* OSC	62* OMC	00* ECS	31* ESC	66* EAV	96* EMI
31* OMP	63* OMC	00* ECS	33* ESM	67* EAV	97* EMI
35* OMI	64* OMC	01* EMC	35H ESM	68* EAV	98* EMI
38* OCS	65* OMC	01* EMC	35* EMC	71G EMC	
39* OCS	66* OMC	02* ECS	36* ESC	71* ECS	

NOTE: * DESIGNATES THAT ALL SPECIALTIES/MOS WITH THE FIRST TWO DIGITS ARE GROUPED IN THIS BRANCH, EXCEPT WHERE INDIVIDUAL MOS ARE LISTED SEPARATELY.

8.4 WARPAM BRANCH PRIORITY TABLE

FILENAME: WARPRI.WR1

Location: THE Lotus/SYMPHONY file is stored on a standard PC. The table created from this worksheet is stored in the Sun workstation "IOFILE" sub-directory.

Use: Used to construct the officer and enlisted branch priority table for use by the REQAST.FOR program. This look-up table supplies the program with the priority of each of the branch/grade combinations found in the current table. To update the file the priorities are manually changed and the file is then resorted in ascending order using the Lotus sort command.

Structure: The file consists of a two digit number, a space and the five letter code for each branch/grade combination.

Conversion to table: The block consisting of the priority and code letter only is copied to a file (not printer) with the file name "WARPRI.TBL using the standard Lotus print commands.

WARPRI TABLE
(ACTUAL Lotus TABLE)

01 OARFD	35 OMCCO
02 OAVFD	36 OMICO
03 OINFD	37 OMPCO
04 OFAFD	38 OCMCO
05 OADFD	39 OTCCO
06 OARCO	40 EMI59
07 OAVCO	41 EMC59
08 OINCO	42 EMP59
09 OFACO	43 ECM59
10 OADCO	44 ETC59
11 OCEFD	45 EOD59
12 OSCFD	46 EMI14
13 OCECO	47 EMC14
14 OSCCO	48 EMP14
15 WCBWW	49 ECM14
16 EAR59	50 ETC14
17 EAV59	51 EOD14
18 EIN59	52 OODFD
19 EFA59	53 OQMFD
20 EAD59	54 OCSFD
21 EAR14	55 WCSWW
22 EAV14	56 WCCWW
23 EIN14	57 OODCO
24 EFA14	58 OQMCO
25 EAD14	59 OCSCO
26 ECE59	60 EQM59
27 ESC59	61 EMM59
28 ECE14	62 ESM59
29 ESC14	63 ECS59
30 OMCFD	64 EQM14
31 OMIFD	65 EMM14
32 OMPFD	66 ESM14
33 OCMFD	67 ECS14
34 OTCFD	

8.5 THEATER/REPLACEMENT TYPE TABLE

FILENAME: THTRTYPE.WR1

LOCATION: The worksheet is stored on a standard PC. The table created from this worksheet is stored on the Sun workstation in the "IOFILE" sub-directory.

Use: The table is used in the requirements/assets table construction program. The table supplies the code numbers corresponding to the letter code for each type of requirement (by theater) and asset.

Structure: The file may be updated by manually changing either the coded number and corresponding letter code or by adding a new line. The spacing of the file containing the coded numbers and letters may not be changed.

Conversion to table: The block consisting of the coded number and letters is saved to a file named THTRTYPE.TBL using the standard Lotus print commands. Old files may be saved by simply renaming these to a different filename in DOS. Only one file may be present on the Sun workstation with the designated name.

	0001	MAX	MAXIMUM FLOW
	0010	DEG	DEFENSE GUIDANCE
	0021	AE1	AUTOREP--EUROPE
	0022	AKO	AUTOREP--KOREA
	0023	ASW	AUTOREP--SW ASIA
	0031	CST	CSMII--TOTAL
	0032	CSB	CSMII--BATTLE ONLY
	0100	TRD	THEATER RETURN TO DUTY
	0200	THS	ACTIVE THS
*	0300	SEL	SELECT RESERVES
	0400	IRR	INITIAL READY RESERVE
	0500	STY	STANDBY BY & IMA
	0600	RET	RETIREES
	0700	TRN	TRAINING BASE

* - Not used in current version. The MOBMAN data base cannot distinguish individual select reserves from units.

8.6 AUTOREP TIME PERIOD CONVERSION TABLE

FILE NAME: TP.WR1

LOCATION: THE Lotus/SYMPHONY worksheet is stored on a standard PC. The table which is created must be stored on the sun workstation in the IOFILE sub-directory.

Use: Used to construct the time periods conversion table for use in the AUTOREP FORTRAN program. This table converts the coded time periods in the input file to 10 day standard format time periods. The TP.Tbl file must be present to run the AUTOREP.FOR program.

Structure: This file should not have to be updated unless there is a change in the AUTOREP input file structure. The table is designed to start at the left MOS margin and consist of two letters, a space and two digits.

Warning: This table structure must not be altered unless the FORTRAN programs which utilizes it is also altered.

Conversion to table: The block consisting of coded letters and conversion numbers below without any header information is saved as a print file with a .TBL extension. To accomplish this in Lotus, print this block to file vice printer in the Lotus structured commands. The file name must be TP.Tbl. Several files may be created, but only one can be present with this specific name in the Sun sub-directory.

CA 01	AM 08
AA 02	AN 08
AB 02	AO 09
AC 03	AP 09
AD 03	AQ 10
AE 04	AR 10
AF 04	AS 11
AG 05	AT 11
AH 05	AU 12
AI 06	AV 12
AJ 06	AW 13
AK 07	AX 13
AL 07	

8.7 OFFICER RECLASSIFICATION PERCENTAGE TABLE

FILE: ORCLSPER.WR1

LOCATION: THE Lotus/SYMPHONY worksheet is stored on a standard PC. The table which is created must be stored on the sun workstation in the IOFILE sub-directory.

USE: Used to construct the reclassification table for the RECLAS module. This table prescribes what percentage of the old branch is reclassified into the new branches.

Structure: This file may be easily updated by manually inserting new percentages into each line. However, the total of the line must be 100%. This may be accomplished on this worksheet by having the CS column equal the difference between 100% and the sum of the other columns. If another method is used than a check column with the sum of the percentages in the line should be used to verify the sum.

Note: The column spacing may not be changed.

Conversion to table: The portion of the file containing the actual branch codes and percentages should be copied without headers or other the standard Lotus print commands.

OFFICER RECLASSIFICATION PERCENTAGES

	NEW MOS																	
OLD MOS	IN	AR	FA	AD	AV	CE	SC	MP	MI	MC	CM	TC	OD	QM	CS	CB	CS	CC
IN	20								2					5	74			
AR		20				1			1			3	3	5	67			
FA			20						2			2	2	3	72			
AD				20		1			1			2	2	3	71			
AV					20	1	2		7			2	2	4	62			
CE						30					1	2	2	3	63			
SC							30		1					1	68			
MP								40	4		1	1	1	4	51			
MI							1	1	40						58			
MC										100								
CM											50	5	5	1	39			
TC											1	50		6	43			
OD											1		70	6	23			
QM												6	6	70	18			
CS															100			
CB																20	40	40
CS																	80	20
CC																		100

8.8 ENLISTED RECLASSIFICATION PERCENTAGE TABLE

FILE: ERCLSPER.WR1

LOCATION: THE Lotus/SYMPHONY worksheet is stored on a standard PC. The table which is created must be stored on the sun workstation in the IOFILE sub-directory.

USE: Used to construct the Reclassification table for the RECLAS module. This table prescribes what percentage of the old branch is reclassified into the new branches.

Structure: This file may be easily updated by manually inserting new percentages into each line. However, the total of the line must be 100%. This may be accomplished on this worksheet by having the CS column equal the difference between 100% and the sum of the other columns. If another method is used, then a check column with the sum of the percentages in the line should be used to verify the sum.

Note: The column spacing may not be changed.

Conversion to table: The portion of the file containing the actual branch codes and percentages should be copied without headers or other the standard Lotus print commands.

ENLISTED RECLASSIFICATION PERCENTAGES

	AR	AV	IN	FA	AD	CE	CM	MI	MP	SC	MC	TC	MM	OD	QM	SM	CS
AR	20								10	10		10	10	10	10		20
AV		20							10	10		10	20	20	10		
IN			20							10		20	10	10	10		20
FA				20					10	10		10	10	20	10		10
AD					20				10	10		10	10	10	10	10	10
CE						20			10	10		20	10	20	10		
CM							30	10		10			10	20	10		10
MI								30	10	20			10		10	10	10
MP									30	10		20	10	10	10		10
SC										30		10	10	10	10	20	10
MC											100						
TC												40	20	20	20		
MM													50	20	20		10
OD														60	20		20
QM															90		10
SM																100	
CS																	100

8.9 RECLASSIFICATION DELAY TABLE

FILE NAME: RCLSDLY.WR1

Location: The worksheet is stored on a standard PC. The table created from this worksheet is stored on the Sun workstation in the "TOFILE" sub-directory.

Use: Used to construct the reclassification delay table (RCLSDLY.TBL) used in the reclassifaction module. This table distributes the reclassified personnel after they have been given a new branch into one of six time periods after the current time period. The percentage in each time period is based on information provided by Soldier Support Center. To update the table these percentages are changed manually by the user and re-saved with the same name. Although all time periods contain the same percentages in this developmental model, these may be changed to a different percentage for each time period.

Structure: Although the file may be updated, the structure of the file as the width of rows, may not be changed. A change in structure will cause the FORTRAN program to read the file incorrectly.

Conversion to table: The block consisting of the data only without any header information is copied to "file" vice printer using the standard Lotus print commands and given a extension of.TBL. Previous tables may be saved by simply renaming the old file with standard DOS commands.

TIME PERIODS TO DELAY RETURN OF TRD AND PERCENTAGE INTO EACH TIME PERIOD

TP	1	2	3	4	5	6
01	0.12	0.27	0.31	0.23	0.05	0.02
02	0.12	0.27	0.31	0.23	0.05	0.02
03	0.12	0.27	0.31	0.23	0.05	0.02
04	0.12	0.27	0.31	0.23	0.05	0.02
05	0.12	0.27	0.31	0.23	0.05	0.02
06	0.12	0.27	0.31	0.23	0.05	0.02
07	0.12	0.27	0.31	0.23	0.05	0.02
08	0.12	0.27	0.31	0.23	0.05	0.02
09	0.12	0.27	0.31	0.23	0.05	0.02
10	0.12	0.27	0.31	0.23	0.05	0.02
11	0.12	0.27	0.31	0.23	0.05	0.02
12	0.12	0.27	0.31	0.23	0.05	0.02
13	0.12	0.27	0.31	0.23	0.05	0.02
14	0.12	0.27	0.31	0.23	0.05	0.02
15	0.12	0.27	0.31	0.23	0.05	0.02
16	0.12	0.27	0.31	0.23	0.05	0.02
17	0.12	0.27	0.31	0.23	0.05	0.02
18	0.12	0.27	0.31	0.23	0.05	0.02

SECTION 9
REPORT GENERATOR CODE (DBASE III)

9.1 GENERAL

The WARPAM Report Generator is designed to allow the user easy access to the WARPAM output files and provide a flexible system to develop both standard format and specially designed reports. The preprocessor and models of WARPAM generate output files in the standard UNIX format which are automatically translated to a DOS file when the reports are copied to a PC via the TRAC-FBHN network. The purpose of the Report Generator programs is to translate these DOS (ASCII) files to DBASE III Plus format. This is accomplished in DBASE III Plus from the dot prompt command line. The user or programmer need only enter "DO filename.PRG" to execute the individual conversion routines. Once, this is accomplished the user may proceed to the assist system and produce reports using the new file which will be named for the program run with the standard DBASE III extension for a data base--.DBF. To modify the program, the programmer may use the DBASE III modify command processor or any editor as Sidekick to modify the programs. As these conversion programs are designed to read the WARPAM output file formats, any change to the FORTRAN programs which results in a change in the output file must be accompanied by a change in the appropriate conversion program. The User's Manual should be consulted for specific steps to initiate each program.

9.2 REQUIREMENT/ASSET REPORT

9.2.1 CONVERSION PROGRAM

**** REQAST.PRG ****

```
SET ECHO OFF
SET TALK OFF
CLEAR

ERASE REQAST.DBF
COPY FILE REQBLNK.DBF TO REQAST.DBF
USE REQAST
APPEND FROM REQAST.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK

SET TALK ON
SET ECHO ON
```

```
******SUBROUTINES******

**  REQAST2.PRG  **

SET ECHO OFF
SET TALK OFF

USE REQAST

SET ALTERNATE TO K:\KAK\REQAST.TXT
SET ALTERNATE ON
??"  CAT/BR       REQ/   TIME PER/   REQ'T/ "
? "  GRADE    S   TYPE   PRIORITY    ASSETS "
? " -------- --- ------ ---------- --------"

DO WHILE .NOT. EOF()

? " ",CAT_BR_GRD,"  ",SEX,"  ",REQ_TYPE," ",TP_PRIORITY," ",REQT_ASSET

SKIP

ENDDO

SET ALTERNATE TO
CLOSE ALTERNATE

SET TALK ON
SET ECHO ON
```

9.2.2 OUTPUT FORMAT

SEE ANNEX C, PAGE C-1.

9.3 RECLASSIFICATION (MODIFIED REQUIREMENT ASSETS) FILE CONVERSION PROGRAMS

9.3.1 CONVERSION PROGRAM

```
**  MODRQAST.PRG  **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE MODRQAST.DBF
COPY FILE MODRBLNK.DBF TO MODRQAST.DBF
USE MODRQAST
APPEND FROM MODRQAST.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
```

```
SET TALK ON
SET ECHO ON
```

9.3.2 OUTPUT FILE

SEE ANNEX C, PAGE C-2.

9.4 CRC MODEL REPORT (INDIVIDUAL PROGRAMS FOR EACH REQUIREMENT FILE)

9.4.1 CONVERSION PROGRAMS

BASE PROGRAM

**** CRC.PRG ****

```
SET ECHO OFF
SET TALK OFF
CLEAR

ERASE CRC.DBF
COPY FILE CRCBLNK.DBF TO CRC.DBF
USE CRC
APPEND FROM CRC.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON
```

```
**  CRCMAX.PRG  **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE CRCMAX.DBF
COPY FILE CRCBLNK.DBF TO CRCMAX.DBF
USE CRCMAX
APPEND FROM CRCMAX.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON

**  CRCDEG.PRG  **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE CRCDEG.DBF
COPY FILE CRCBLNK.DBF TO CRCDEG.DBF
USE CRCDEG
APPEND FROM CRCDEG.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP
```

```
DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON


** CRCAE1.PRG **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE CRCAE1.DBF
COPY FILE CRCBLNK.DBF TO CRCAE1.DBF
USE CRCAE1
APPEND FROM CRCAE1.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF
```

```
ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON


** CRCAKO.PRG **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE CRCAKO.DBF
COPY FILE CRCBLNK.DBF TO CRCAKO.DBF
USE CRCAKO
APPEND FROM CRCAKO.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON
```

```
** CRCCST.PRG **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE CRCCST.DBF
COPY FILE CRCBLNK.DBF TO CRCCST.DBF
USE CRCCST
APPEND FROM CRCCST.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON


** CRCCSB.PRG **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE CRCCSB.DBF
COPY FILE CRCBLNK.DBF TO CRCCSB.DBF
USE CRCCSB
APPEND FROM CRCCSB.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
```

```
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON
```

9.4.2 OUTPUT REPORT

SEE ANNEX C, PAGE C-3.

9.5 REPLACEMENT CO MODEL REPORT FILE CONVERSION PROGRAMS

9.5.1 CONVERSION PROGRAMS (INDIVIDUAL PROGRAM FOR EACH REQUIEMENT FILE)

**** RPLMAX.PRG ****

```
SET ECHO OFF
SET TALK OFF
CLEAR

ERASE RPLMAX.DBF
COPY FILE RPLBLNK.DBF TO RPLMAX.DBF
USE RPLMAX
APPEND FROM RPLMAX.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0
```

```
   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100
      REPLACE REQT_FILLD WITH TEMP
   ELSE
      REPLACE ASSET_USED WITH TEMP
   ENDIF
ENDIF
SKIP
ENDDO
SET TALK ON
SET ECHO ON

** RPLDEG.PRG **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE RPLDEG.DBF
COPY FILE RPLBLNK.DBF TO RPLDEG.DBF
USE RPLDEG
APPEND FROM RPLDEG.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0
   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100
      REPLACE REQT_FILLD WITH TEMP
   ELSE
      REPLACE ASSET_USED WITH TEMP
   ENDIF
ENDIF
SKIP
```

```
ENDDO

SET TALK ON
SET ECHO ON


**  RPLAE1.PRG  **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE RPLAE1.DBF
COPY FILE RPLBLNK.DBF TO RPLAE1.DBF
USE RPLAE1
APPEND FROM RPLAE1.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON


**  RPLAKO.PRG  **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE RPLAKO.DBF
```

```
COPY FILE RPLBLNK.DBF TO RPLAKO.DBF
USE RPLAKO
APPEND FROM RPLAKO.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100

      REPLACE REQT_FILLD WITH TEMP

   ELSE

      REPLACE ASSET_USED WITH TEMP

   ENDIF

ENDIF

SKIP

ENDDO

SET TALK ON
SET ECHO ON


**  RPLCST.PRG  **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE RPLCST.DBF
COPY FILE RPLBLNK.DBF TO RPLCST.DBF
USE RPLCST
APPEND FROM RPLCST.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0

   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100
```

```
      REPLACE REQT_FILLD WITH TEMP
   ELSE
      REPLACE ASSET_USED WITH TEMP
   ENDIF
ENDIF
SKIP
ENDDO
SET TALK ON
SET ECHO ON

** RPLCSB.PRG **

SET ECHO OFF
SET TALK OFF
CLEAR

ERASE RPLCSB.DBF
COPY FILE RPLBLNK.DBF TO RPLCSB.DBF
USE RPLCSB
APPEND FROM RPLCSB.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK
GO TOP

DO WHILE .NOT. EOF()

IF TEMP <> 0
   IF VAL(SUBSTR(TP_PRIORIT,7,3)) < 100
      REPLACE REQT_FILLD WITH TEMP
   ELSE
      REPLACE ASSET_USED WITH TEMP
   ENDIF
ENDIF
SKIP
ENDDO
```

```
SET TALK ON
SET ECHO ON
```

9.5.2 OUTPUT FILE

SEE ANNEX C, PAGE C-3.

9.6 TRANSPORTATION MODEL REPORT CONVERSION PROGRAMS

9.6.1 CONVERSION PROGRAM

**** TRANS.PRG ****

```
SET ECHO OFF
SET TALK OFF
CLEAR

ERASE TRANS.DBF
COPY FILE TRNSBLNK.DBF TO TRANS.DBF
USE TRANS
APPEND FROM TRANS.OUT TYPE DELIMITED WITH BLANK
GO TOP
DELETE NEXT 3
PACK

SET TALK ON
SET ECHO ON
```

9.6.2 OUTPUT REPORT

SEE ANNEX C, PAGE C-4

ANNEX A
TERMS & ABBREVIATIONS

ASSET: Personnel inventory used to satisfy requirements. There are seven classes of assets: TRD-Theater Return-To-Duty, THS-active duty transients, holdees, students and hospital, SEL-Select Reserve, IRR-Initial Ready Reserve, STY-Stand By and IMA, RET-retirees, TRN-skill level one trainees.

AUTOREP: US ARMY PERSCOM shelf requestion system.

Branch: Branch represents the specialties/MOS and grade combinations which have been grouped together in the preprocessor. These branches are then pr.oritized in the Branch Look-Up Table and given a priority number. The initial version of WARPAM has 67 branch/grade combinations.

CSM II: Soldier Support Center casualty stratification model.

MOBARPRINT: HQDA, ODCSPER system for the projection od skill level one training base output. MOBTNGBS is used interchangeable in WARPAM.

MOBMAN: US ARMY PERSCOM model to project defense guidance level requirements and personnel assets.

Return-to-Duty Rate: This is the percentage of casualties which the user desires to return to duty within the theater. The model will accept either a rate (decimal) or percentage (whole number) ranging from .1% (.001) to 99.99% (.9999). Based on 1989 CAA estimates the recommended rate for current policy is 20%.

Requirements: Personnel requirements in a theater caused by either a shortage of personnel or by casualties. Requirements are derived from other military model outputs and are found in the requirement/assets file.

Requirements/Assets Generator: This module merges the files derived from other military models into a single file, assigns branch priorities, assigns a unique code number, and sorts the file by code number. The output of this module is the REQAST.TBL.

Time Periods: A time period is 10 days.

ANNEX B: SAMPLE FILE/OUTPUT FORMATS

B.1 INPUT FILES

B.1.1 AUTOREP INPUT FILE

```
AAW100AX NB0001A2
ABW100AX NB0001A2
ACW100AX NB0002A2
ADW100AX NB0003A2
AEW100AX NB0004A2
AFW100AX NB0006A2
AGW100AX NB0009A2
AHW100AX NB0009A2
AIW100AX NB0009A2
AJW100AX NB0009A2
AKW100AX NB0009A2
ALW100AX NB0009A2
AMW100AX NB0009A2
ANW100AX NB0009A2
AOW100AX NB0009A2
APW100AX NB0005A2
AQW100AX NB0005A2
ARW100AX NB0005A2
ASW100AX NB0005A2
ATW100AX NB0005A2
AUW100AX NB0005A2
AVW100AX NB0005A2
AWW100AX NB0005A2
AXW100AX NB0005A2
AGW100BX NB0001A2
AHW100BX NB0001A2
AIW100BX NB0001A2
AJW100BX NB0001A2
AKW100BX NB0001A2
ALW100BX NB0001A2
AMW100BX NB0001A2
ANW100BX NB0001A2
AOW100BX NB0001A2
AEW100CX NB0001A2
AFW100CX NB0001A2
AGW100CX NB0001A2
AHW100CX NB0001A2
AIW100CX NB0001A2
AJW100CX NB0001A2
AKW100CX NB0001A2
ALW100CX NB0002A2
AMW100CX NB0002A2
```

B.1.2 MOBMAN INPUT FILE

```
      RETIREES                25        25        25        25        25        25        25        25        25        25        25        25
      TRAINEES                 0         0         3         6         9        12        15        18        27        28        28        28
      SUPPLY TOTAL           908       908       906       909       912       915       918       921       930       931       931       931
0     CUM BALANCE            108        98        95        97       108       108       110       115       123       124       123       122
-MOS  02C     E
      WAR REQUIRED           254       259       259       259       259       259       259       259       259       259       259       259
      CASUALTIES               0         0         0         0         0         0         0         0         0         0         0         0
      THS                      5         5         5         5         2         2         2         2         2         2         2         2
      REQ'D TOTAL            259       264       264       264       261       261       261       261       261       261       261       261
0     ACTIVE                 105       105       105       105       105       105       105       105       105       105       105       105
      SEL RESERVE            136       136       136       136       136       136       136       136       136       136       136       136
      IRA                      0         0         0         0         0         0         0         0         0         0         0         0
      IRR                     16        16        16        16        16        16        16        16        16        16        16        16
      STANDBY                  0         0         0         0         0         0         0         0         0         0         0         0
      RETIREES                 6         6         6         6         6         6         6         6         6         6         6         6
      TRAINEES                 0         0         1         2         3         4         5         6         8         8         8         8
      SUPPLY TOTAL           263       263       264       265       266       267       268       269       271       271       271       271
0     CUM BALANCE              4        -1         0         1         5         6         7         8        10        10        10        10
1MOBCDRX                                                MOBMAN 1322 REPORT
-                                                REQUIREMENTS AND ASSETS FOR FY 91 AT MOS LEVEL
                      PEACE     M-DAY     M+10      M+20      M+30      M+40      M+50      M+60      M+90      M+120     M+150     M+180
 MOS  02D     E
      WAR REQUIRED           402       403       403       403       403       403       403       403       403       403       403       403
      CASUALTIES               0         0         0         0         0         0         0         0         0         0         0         0
      THS                      7         7         7         7         6         6         6         3         3         3         3         3
      REQ'D TOTAL            409       410       410       410       409       409       409       406       406       406       406       406
0     ACTIVE                 136       136       136       136       136       136       136       136       136       136       136       136
      SEL RESERVE            203       203       203       203       203       203       203       203       203       203       203       203
      IRA                      0         0         0         0         0         0         0         0         0         0         0         0
      IRR                     28        28        28        28        28        28        28        28        28        28        28        28
      STANDBY                  0         0         0         0         0         0         0         0         0         0         0         0
      RETIREES                 9         9         9         9         9         9         9         9         9         9         9         9
      TRAINEES                 0         0         1         2         3         4         5         6         9        14        14        14
      SUPPLY TOTAL           376       376       377       378       379       380       381       382       385       390       390       390
0     CUM BALANCE            -33       -34       -33       -32       -30       -29       -28       -24       -21       -16       -16       -16
-MOS  02E     E
      WAR REQUIRED           518       518       518       518       518       518       518       518       518       518       518       518
      CASUALTIES               0         0         0         0         0         1         1         1         1         1         1         1
      THS                     10        10        10        10         7         7         7         4         3         3         3         3
      REQ'D TOTAL            528       528       528       528       525       526       526       523       522       522       522       522
0     ACTIVE                 212       212       212       212       212       212       212       212       212       212       212       212
      SEL RESERVE            282       282       282       282       282       282       282       282       282       282       282       282
      IRA                      2         2         2         2         2         2         2         2         2         2         2         2
      IRR                     44        44        44        44        44        44        44        44        44        44        44        44
      STANDBY                  0         0         0         0         0         0         0         0         0         0         0         0
      RETIREES                15        15        15        15        15        15        15        15        15        15        15        15
      TRAINEES                 0         0         1         2         3         4         5         6         9        13        13        13
      SUPPLY TOTAL           555       555       556       557       558       559       560       561       564       568       568       568
0     CUM BALANCE             32        27        28        29        33        33        34        38        42        46        46        46
-MOS  02F     E
      WAR REQUIRED           376       377       377       377       377       377       377       377       377       377       377       377
      CASUALTIES               0         0         0         0         0         0         0         0         0         0         0         0
      THS                      6         6         6         6         6         6         6         3         3         3         3         3
      REQ'D TOTAL            382       383       383       383       383       383       383       380       380       380       380       380
0     ACTIVE                 156       156       156       156       156       156       156       156       156       156       156       156
      SEL RESERVE            208       208       208       208       208       208       208       208       208       208       208       208
      IRA                      1         1         1         1         1         1         1         1         1         1         1         1
      IRR                     34        34        34        34        34        34        34        34        34        34        34        34
      STANDBY                  0         0         0         0         0         0         0         0         0         0         0         0
```

B.1.3 CSM II INPUT FILE

```
09 0 60T   *  *      0        0
09 0 60V   *  *      0        0
09 0 60W   *  *      0        0
09 0 61F   *  *      1        0
09 0 61H   *  *      1        0
09 0 61J   *  *      2        0
09 0 61K   *  *      0        0
09 0 61M   *  *      1        0
09 0 61N   *  *      0        0
09 0 61S   *  *      0        0
09 0 61U   *  *      0        0
09 0 61Z   *  *      0        0
09 0 62A   *  *      1        0
09 0 63A   *  *      1        0
09 0 63B   *  *      0        0
09 0 63G   *  *      0        0
09 0 63H   *  *      0        0
09 0 63N   *  *      0        0
09 0 63R   *  *      0        0
09 0 64A   *  *      0        0
09 0 64B   *  *      0        0
09 0 64E   *  *      0        0
09 0 65A   *  *      0        0
09 0 65B   *  *      0        0
09 0 65C   *  *      1        0
09 0 66A   *  *      0        0
09 0 66C   *  *      0        0
09 0 66E   *  *      2        0
09 0 66F   *  *      2        0
09 0 66G   *  *      0        0
09 0 66H   *  *     12        0
09 0 66J   *  *      4        0
09 0 67A   *  *      0        0
09 0 67B   *  *      3        0
09 0 67C   *  *      0        0
09 0 67D   *  *      0        0
09 0 67E   *  *      1        0
09 0 67F   *  *      0        0
09 0 67G   *  *      0        0
09 0 67H   *  *      0        0
09 0 67J   *  *      0        0
09 0 67K   *  *      1        0
09 0 67X   *  *      0        0
09 0 68A   *  *      0        0
09 0 68B   *  *      0        0
09 0 68C   *  *      0        0
```

B.1.4 MOBTNGBS FILE

```
****00836400878400834201139100817200762701141400765101503200845701731000860
400897720180000082900168110085000830619002 7
00B1000003000003000003000003000002000002000002000000000016000006000009000007
000000900000000000800000700007000000000087
02B1000002000002000002000002000002000002000002000002000002000002000002000003
000000000000000000000000000000000000000000025
02C1000001000001000001000001000001000001000001000000000000000000000000000000
000000000000000000000000000000000000000000007
02D1000001000001000001000001000001000001000001000001000001000001000001600001
000000070000140000070000140000070000070000092
02E1000001000001000001000001000001000001000001000001000001000001000001000000
000000000000000000000000000000000000000000011
02F1000001000001000001000001000001000001000001000001000001000001000000000000
000000000000000000000000000000000000000000010
02G1000001000001000001000001000001000001000001000001000000000000000000100000
100000000000010000010000000000000000000012
02H1000000000000000000000000000000000000000000000000000000000000000000900000
800000040000080000040000080000040000040000049
02J1000001000001000001000001000001000001000001000001000001000001000034000001
800001160000320000160000320000160000160000190
02K1000000000000000000000000000000000000000000000000000000000000000000600000
700000030000060000030000060000030000030000037
02L1000001000001000001000001000001000001000001000001000001000001000001000000
300000000000000000000000000000000000000000014
02M1000001000001000001000001000001000001000001000001000001000001000000000000
000000000000000000000000000000000000000000010
02N1000000000000000000000000000000000000000000000000000000000000000001400001
000000060000120000060000120000060000060000072
02T1000000000000000000000000000000000000000000000000000000000000000000000000
400000000000000000000000000000000000000000004
02U1000001000001000001000001000001000001000000000000000000000000000000600000
300000030000060000030000060000020000020000037
11B1000483000483000482000442000529000507000952000857002073001370003350001980
00022000004543002370004744002451002189032005
11C1000088000088000087000081000081000073000122000116000270000129000280000100
500014490003890001940003340002260001350029 47
11H1000093000093000093000088000087000081000223000220000281000140000210000069
900006690001380000690002060001370001370024 34
11M1000099000099000099000301000504000504000705000298001554001258002516001258
800106600019220003970007940005950005950145 58
12B1000228000228000282000302000239000293000401000875000751000690001380000216
000084480016960010070020140011650011650137 80
12C1000032000032000084000131000077000128000231000327000480000339000612000339
900033390007110003720007760004040004040058 18
```

B.2 CONVERTED INPUT FILES

B.2.1 AUTOREP FILE

```
02   WCBWW   X   AKO      24
03   WCBWW   X   AKO      85
04   WCBWW   X   AKO      93
05   WCBWW   X   AKO     104
06   WCBWW   X   AKO     140
07   WCBWW   X   AKO     180
08   WCBWW   X   AKO     226
09   WCBWW   X   AKO     255
10   WCBWW   X   AKO     204
11   WCBWW   X   AKO      64
12   WCBWW   X   AKO      68
13   WCBWW   X   AKO      74
14   WCBWW   X   AKO      74
15   WCBWW   X   AKO      74
16   WCBWW   X   AKO      74
17   WCBWW   X   AKO      74
18   WCBWW   X   AKO      74
```

B.2.2 MOBMAN REQUIREMENTS FILE

```
01  E  CS  59    DEG    191
02  E  CS  59    DEG    138
03  E  CS  59    DEG    183
04  E  CS  59    DEG    273
05  E  CS  59    DEG    214
06  E  CS  59    DEG     44
07  E  CS  59    DEG     44
08  E  CS  59    DEG     44
09  E  CS  59    DEG     74
10  E  CS  59    DEG     74
11  E  CS  59    DEG     74
12  E  CS  59    DEG     54
13  E  CS  59    DEG     54
14  E  CS  59    DEG     54
15  E  CS  59    DEG     63
16  E  CS  59    DEG     63
17  E  CS  59    DEG     63
18  E  CS  59    DEG    177
01  E  CS  14    DEG    285
02  E  CS  14    DEG    202
03  E  CS  14    DEG    260
04  E  CS  14    DEG    390
05  E  CS  14    DEG    307
18  E  CS  14    DEG    276
```

B.2.3 MOBMAN ASSETS FILE

01	E	CS	59	IRR	4046
01	E	CS	59	THS	1274
01	E	CS	59	STY	4044
01	E	CS	59	RET	13211
01	E	CS	14	THS	1071
01	E	CS	14	IRR	14530
01	E	CS	14	STY	1734
01	E	CS	14	RET	96
01	E	MI	14	THS	188
01	E	MI	59	THS	336
01	E	MI	59	IRR	1621
01	E	MI	59	STY	332
01	E	MI	59	RET	2559
01	E	MI	14	IRR	2275
01	E	IN	14	THS	1883
01	E	IN	14	IRR	23949
01	E	IN	14	STY	63
01	E	IN	59	THS	1630
01	E	IN	59	IRR	5674
01	E	IN	59	STY	829
01	E	IN	59	RET	10042
01	E	CE	14	THS	1128
01	E	CE	14	IRR	13920
01	E	CE	14	STY	104
01	E	CE	14	RET	91
01	E	CE	59	THS	531
01	E	CE	59	IRR	1836
01	E	CE	59	STY	582
01	E	CE	59	RET	3088
01	E	FA	14	THS	1067
01	E	FA	14	IRR	13441
01	E	FA	14	STY	29

B.2.4 CSM II FILE

TP	CATBRGD	S	BATTLE STR	NON-BATTLE STR	TOTAL STR
01	OADCO	X	34	0	34
01	OADFD	X	15	0	15
01	OARCO	X	141	0	141
01	OARFD	X	60	0	60
01	OAVCO	X	13	0	13
01	OAVFD	X	5	0	5
01	OCECO	X	40	0	40
01	OCEFD	X	17	0	17
01	OCMCO	X	6	0	6
01	OCMFD	X	3	0	3
01	OCSCO	X	14	0	14
01	OCSFD	X	3	0	3
01	OFACO	X	83	0	83
01	OFAFD	X	36	0	36
01	OINCO	X	184	0	184
01	OINFD	X	78	0	78
01	OMCCO	X	27	0	27
01	OMCFD	X	10	0	10
01	OMICO	X	7	0	7
01	OMIFD	X	2	0	2
01	OMPCO	X	8	0	8
01	OMPFD	X	4	0	4
01	OODCO	X	26	0	26
01	OODFD	X	11	0	11
01	OQMCO	X	7	0	7
01	OQMFD	X	2	0	2
01	OSCCO	X	24	0	24
01	OSCFD	X	11	0	11
01	OTCCO	X	20	0	20
01	OTCFD	X	10	0	10
01	WCBWW	X	40	0	40
01	WCCWW	X	52	0	52
01	WCSWW	X	109	0	109
01	EAD14	X	386	0	386
01	EAD59	X	165	0	165
01	EAR14	X	1428	0	1428
01	EAR59	X	612	0	612
01	EAV14	X	21	0	21
01	EAV59	X	8	0	

B.2.5 MOBTNGBS FILE

TP	CATBRGD	S	TYPE	STR
01	EAD14		TRN	140
01	EAR14		TRN	250
01	EAV14		TRN	302
01	ECE14		TRN	515
01	ECM14		TRN	68
01	ECS14		TRN	758
01	EFA14		TRN	561
01	EIN14		TRN	763
01	EMC14		TRN	831
01	EMI14		TRN	235
01	EMM14		TRN	68
01	EMP14		TRN	273
01	EOD14		TRN	920
01	EQM14		TRN	1401
01	ESC14		TRN	582
01	ESM14		TRN	38
01	ETC14		TRN	659

ANNEX C: OUTPUT REPORT FORMATS

C.1 PREPROCESSOR OUTPUT (REQAST FILE)

CAT/BR GRADE	S	REQ/ TYPE	TIME PER/ PRIORITY	REQ'T/ ASSETS
OARFD	M	DEG	010010010	46
OARFD	M	IRR	010010400	671
OARFD	M	STY	010010500	390
OARFD	M	RET	010010600	515
OAVFD	X	DEG	010020010	10
OAVFD	X	IRR	010020400	415
OAVFD	X	STY	010020500	340
OAVFD	X	RET	010020600	305
OINFD	M	DEG	010030010	78
OINFD	M	IRR	010030400	1462
OINFD	M	STY	010030500	1143
OINFD	M	RET	010030600	1340
OFAFD	M	DEG	010040010	41
OFAFD	M	IRR	010040400	796
OFAFD	M	STY	010040500	427
OFAFD	M	RET	010040600	417
OADFD	X	DEG	010050010	9
OADFD	X	IRR	010050400	209
OADFD	X	STY	010050500	127
OADFD	X	RET	010050600	87
OARCO	M	DEG	010060010	379
OARCO	M	IRR	010060400	1758
OARCO	M	STY	010060500	166
OARCO	M	RET	010060600	87
OAVCO	X	DEG	010070010	39
OAVCO	X	IRR	010070400	483
OAVCO	X	STY	010070500	61

C.2 RECLASSIFACTION MODEL OUTPUT (MODRQAST FILE)

CAT/BR GRADE	S	REQ/ TYPE	TIME PER/ PRIORITY	REQ'T/ ASSETS
OARFD	M	DEG	010010010	46
OARFD	M	THS	010010200	60
OARFD	M	IRR	010010400	671
OARFD	M	STY	010010500	390
OARFD	M	RET	010010600	515
OAVFD	X	DEG	010020010	10
OAVFD	X	THS	010020200	84
OAVFD	X	IRR	010020400	415
OAVFD	X	STY	010020500	340
OAVFD	X	RET	010020600	305
OINFD	M	DEG	010030010	78
OINFD	M	THS	010030200	132
OINFD	M	IRR	010030400	1462
OINFD	M	STY	010030500	1143
OINFD	M	RET	010030600	1340
OFAFD	M	DEG	010040010	41
OFAFD	M	THS	010040200	72
OFAFD	M	IRR	010040400	796
OFAFD	M	STY	010040500	427
OFAFD	M	RET	010040600	417
OADFD	X	DEG	010050010	9
OADFD	X	THS	010050200	34
OADFD	X	IRR	010050400	209
OADFD	X	STY	010050500	127
OADFD	X	RET	010050600	87
OARCO	M	DEG	010060010	379
OARCO	M	THS	010060200	291
OARCO	M	IRR	010060400	1758
OARCO	M	STY	010060500	166
OARCO	M	RET	010060600	87
OAVCO	X	DEG	010070010	39
OAVCO	X	THS	010070200	187
OAVCO	X	IRR	010070400	483
OAVCO	X	STY	010070500	61

C.3 CRC/RPL CO MODEL OUTPUT FILE (CRC_*_.OUT/RPL_*_.OUT---* THREE LTR REQUIREMENT CODE)

CAT/BR GRADE	S	REQ/ TYPE	TIME PER/ PRIORITY	REQ'T/ ASSETS	REQ'T FILLED	ASSET USED
OARFD	M	DEG	010010010	46	48	
OARFD	M	THS	010010200	60		48
OARFD	M	IRR	010010400	671		0
OARFD	M	STY	010010500	390		0
OARFD	M	RET	010010600	515		0
OAVFD	X	DEG	010020010	10	10	
OAVFD	X	THS	010020200	84		10
OAVFD	X	IRR	010020400	415		0
OAVFD	X	STY	010020500	340		0
OAVFD	X	RET	010020600	305		0
OINFD	M	DEG	010030010	78	80	
OINFD	M	THS	010030200	132		80
OINFD	M	IRR	010030400	1462		0
OINFD	M	STY	010030500	1143		0
OINFD	M	RET	010030600	1340		0
OFAFD	M	DEG	010040010	41	42	
OFAFD	M	THS	010040200	72		42
OFAFD	M	IRR	010040400	796		0
OFAFD	M	STY	010040500	427		0
OFAFD	M	RET	010040600	417		0
OADFD	X	DEG	010050010	9	9	
OADFD	X	THS	010050200	34		9
OADFD	X	IRR	010050400	209		0
OADFD	X	STY	010050500	127		0
OADFD	X	RET	010050600	87		0
OARCO	M	DEG	010060010	379	379	
OARCO	M	THS	010060200	291		291
OARCO	M	IRR	010060400	1758		0
OARCO	M	STY	010060500	166		0
OARCO	M	RET	010060600	87		0

C.4 TRANSPORTATION MODEL OUTPUT (TRANS.OUT)

TP	CAT/BR GRADE	S	THEATER	REQ	CRC FLOW	RPL FLOW	THEATER PER	FLOW DIF
01	OARFD	M	DEG	46	48	46	100.0%	2
01	OAVFD	X	DEG	10	10	10	100.0%	0
01	OINFD	M	DEG	78	81	78	100.0%	3
01	OFAFD	M	DEG	41	43	41	100.0%	2
01	OADFD	X	DEG	9	9	9	100.0%	0
01	OARCO	M	DEG	379	395	379	100.0%	16
01	OAVCO	X	DEG	39	41	39	100.0%	2
01	OINCO	M	DEG	514	535	514	100.0%	21
01	OFACO	M	DEG	207	216	207	100.0%	9
01	OADCO	X	DEG	67	70	67	100.0%	3
01	OCEFD	X	DEG	4	4	4	100.0%	0
01	OSCFD	X	DEG	21	22	21	100.0%	1
01	OCECO	X	DEG	1	1	1	100.0%	0
01	OSCCO	X	DEG	73	76	73	100.0%	3
01	EAR59	M	DEG	2138	1449	1511	70.7%	-62
01	EAV59	X	DEG	112	0	0	0.0%	0
01	EIN59	M	DEG	2690	0	0	0.0%	0
01	EFA59	M	DEG	1010	0	0	0.0%	0
01	EAD59	X	DEG	356	0	0	0.0%	0
01	EAR14	M	DEG	2803	0	0	0.0%	0
01	EAV14	X	DEG	133	0	0	0.0%	0
01	EIN14	M	DEG	4985	0	0	0.0%	0
01	EFA14	M	DEG	1702	0	0	0.0%	0
01	EAD14	X	DEG	483	0	0	0.0%	0
01	ECE59	X	DEG	449	0	0	0.0%	0
01	ESC59	X	DEG	652	0	0	0.0%	0
01	ECE14	X	DEG	1213	0	0	0.0%	0
01	ESC14	X	DEG	639	0	0	0.0%	0
01	OMCFD	X	DEG	59	0	0	0.0%	0
01	OMIFD	X	DEG	16	0	0	0.0%	0
01	OMPFD	X	DEG	7	0	0	0.0%	0
01	OCMFD	X	DEG	7	0	0	0.0%	0
01	OMCCO	X	DEG	139	0	0	0.0%	0
01	OMICO	X	DEG	53	0	0	0.0%	0
01	OMPCO	X	DEG	29	0	0	0.0%	0
01	OCMCO	X	DEG	29	0	0	0.0%	0
01	EMI59	X	DEG	192	0	0	0.0%	0
01	EMC59	X	DEG	487	0	0	0.0%	0
01	EMP59	X	DEG	86	0	0	0.0%	0